

10/696749 SELECTIVE HYDROGENATION CATALYST text search

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8/1/2007

=> d his

(FILE 'HOME' ENTERED AT 07:56:40 ON 02 AUG 2007)

FILE 'HCAPLUS' ENTERED AT 07:56:57 ON 02 AUG 2007

L1 0 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM (5N) THALLIUM (5N)  
L2 7512 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM  
L3 23 S L2 AND THALLIUM  
L4 22 S L2 AND INORGANIC (W) SUPPORT  
L5 22 S L4 SUBSET=L3  
L6 0 S L4 AND L3  
L7 3 S METHANE (3N) ETHYLENE (3N) HYDROGEN (3N) CARBON (W) DIOXIDE (  
L8 0 S L2 AND L7

FILE 'STNGUIDE' ENTERED AT 08:03:21 ON 02 AUG 2007

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NEWS 3 MAR 16 CASREACT coverage extended  
NEWS 4 MAR 20 MARPAT now updated daily  
NEWS 5 MAR 22 LWPI reloaded  
NEWS 6 MAR 30 RDISCLOSURE reloaded with enhancements  
NEWS 7 APR 02 JICST-EPLUS removed from database clusters and STN  
NEWS 8 APR 30 GENBANK reloaded and enhanced with Genome Project ID field  
NEWS 9 APR 30 CHEMCATS enhanced with 1.2 million new records  
NEWS 10 APR 30 CA/Caplus enhanced with 1870-1889 U.S. patent records  
NEWS 11 APR 30 INPADOC replaced by INPADOCDB on STN  
NEWS 12 MAY 01 New CAS web site launched  
NEWS 13 MAY 08 CA/Caplus Indian patent publication number format defined  
NEWS 14 MAY 14 RDISCLOSURE on STN Easy enhanced with new search and display fields  
NEWS 15 MAY 21 BIOSIS reloaded and enhanced with archival data  
NEWS 16 MAY 21 TOXCENTER enhanced with BIOSIS reload  
NEWS 17 MAY 21 CA/Caplus enhanced with additional kind codes for German patents  
NEWS 18 MAY 22 CA/Caplus enhanced with IPC reclassification in Japanese patents  
NEWS 19 JUN 27 CA/Caplus enhanced with pre-1967 CAS Registry Numbers  
NEWS 20 JUN 29 STN Viewer now available  
NEWS 21 JUN 29 STN Express, Version 8.2, now available  
NEWS 22 JUL 02 LEMBASE coverage updated  
NEWS 23 JUL 02 LMEDLINE coverage updated  
NEWS 24 JUL 02 SCISEARCH enhanced with complete author names  
NEWS 25 JUL 02 CHEMCATS accession numbers revised  
NEWS 26 JUL 02 CA/Caplus enhanced with utility model patents from China  
NEWS 27 JUL 16 Caplus enhanced with French and German abstracts  
NEWS 28 JUL 18 CA/Caplus patent coverage enhanced  
NEWS 29 JUL 26 USPATFULL/USPAT2 enhanced with IPC reclassification  
NEWS 30 JUL 30 USGENE now available on STN

NEWS EXPRESS 29 JUNE 2007: CURRENT WINDOWS VERSION IS V8.2,  
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 05 JULY 2007.

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FILE 'HOME' ENTERED AT 07:56:40 ON 02 AUG 2007

=> file hcaplus

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SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'HCAPLUS' ENTERED AT 07:56:57 ON 02 AUG 2007

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FILE COVERS 1907 - 2 Aug 2007 VOL 147 ISS 6

FILE LAST UPDATED: 1 Aug 2007 (20070801/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s catalyst (3n) hydrogenation (5n) palladium (5n) thallium (5n) inorganic (w) support

770520 CATALYST

767946 CATALYSTS

984676 CATALYST

(CATALYST OR CATALYSTS)

177027 HYDROGENATION

2319 HYDROGENATIONS

177269 HYDROGENATION

(HYDROGENATION OR HYDROGENATIONS)

169314 PALLADIUM

39 PALLADIUMS

169317 PALLADIUM

(PALLADIUM OR PALLADIUMS)

52255 THALLIUM

20 THALLIUMS

52259 THALLIUM

(THALLIUM OR THALLIUMS)

10/696749 SELECTIVE HYDROGENATION CATALYST text search

124340 INORGANIC  
310 INORGANICS  
124600 INORGANIC  
(INORGANIC OR INORGANICS)  
291927 INORG  
1214 INORGS  
292671 INORG  
(INORG OR INORGS)  
355364 INORGANIC  
(INORGANIC OR INORG)  
492604 SUPPORT  
137959 SUPPORTS  
585453 SUPPORT  
(SUPPORT OR SUPPORTS)

L1 0 CATALYST (3A) HYDROGENATION (5A) PALLADIUM (5A) THALLIUM (5A)  
INORGANIC (W) SUPPORT

=> s catalyst (3n) hydrogenation (5n) palladium

770520 CATALYST  
767946 CATALYSTS  
984676 CATALYST  
(CATALYST OR CATALYSTS)  
177027 HYDROGENATION  
2319 HYDROGENATIONS  
177269 HYDROGENATION  
(HYDROGENATION OR HYDROGENATIONS)  
169314 PALLADIUM  
39 PALLADIUMS  
169317 PALLADIUM  
(PALLADIUM OR PALLADIUMS)

L2 7512 CATALYST (3A) HYDROGENATION (5A) PALLADIUM

=> s l2 and thallium

52255 THALLIUM  
20 THALLIUMS  
52259 THALLIUM  
(THALLIUM OR THALLIUMS)

L3 23 L2 AND THALLIUM

=> s l2 and inorganic (w) support

124340 INORGANIC  
310 INORGANICS  
124600 INORGANIC  
(INORGANIC OR INORGANICS)  
291927 INORG  
1214 INORGS  
292671 INORG  
(INORG OR INORGS)  
355364 INORGANIC  
(INORGANIC OR INORG)  
492604 SUPPORT  
137959 SUPPORTS  
585453 SUPPORT  
(SUPPORT OR SUPPORTS)

1226 INORGANIC (W) SUPPORT

L4 22 L2 AND INORGANIC (W) SUPPORT

=> s l4 subset=l3

SUBSET IS IGNORED AS A SCOPE FOR THIS SEARCH

10/696749 SELECTIVE HYDROGENATION CATALYST text search

124340 INORGANIC  
 310 INORGANICS  
 124600 INORGANIC  
 (INORGANIC OR INORGANICS)  
 291927 INORG  
 1214 INORGS  
 292671 INORG  
 (INORG OR INORGS)  
 355364 INORGANIC  
 (INORGANIC OR INORG)  
 492604 SUPPORT  
 137959 SUPPORTS  
 585453 SUPPORT  
 (SUPPORT OR SUPPORTS)  
 1226 INORGANIC (W) SUPPORT  
 L5 22 L2 AND INORGANIC (W) SUPPORT

=> s l4 and l3

L6 0 L4 AND L3

=>.d this

(FILE 'HOME' ENTERED AT 07:56:40 ON 02 AUG 2007)

FILE 'HCAPLUS' ENTERED AT 07:56:57 ON 02 AUG 2007

L1 0 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM (5N) THALLIUM (5N)  
 L2 7512 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM  
 L3 23 S L2 AND THALLIUM  
 L4 22 S L2 AND INORGANIC (W) SUPPORT  
 L5 22 S L4 SUBSET=L3  
 L6 0 S L4 AND L3

=> s methane (3n) ethylene (3n) hydrogen (3n) carbon (w) dioxide (3n) acetylene

178849 METHANE  
 3445 METHANES  
 180295 METHANE  
 (METHANE OR METHANES)  
 551621 ETHYLENE  
 3415 ETHYLENES  
 553126 ETHYLENE  
 (ETHYLENE OR ETHYLENES)  
 1005936 HYDROGEN  
 6018 HYDROGENS  
 1009289 HYDROGEN  
 (HYDROGEN OR HYDROGENS)  
 1294733 CARBON  
 27749 CARBONS  
 1304581 CARBON  
 (CARBON OR CARBONS)  
 498428 DIOXIDE  
 6778 DIOXIDES  
 500145 DIOXIDE  
 (DIOXIDE OR DIOXIDES)  
 69688 ACETYLENE  
 8852 ACETYLENES  
 73607 ACETYLENE  
 (ACETYLENE OR ACETYLENES)

L7 3 METHANE (3A) ETHYLENE (3A) HYDROGEN (3A) CARBON (W) DIOXIDE  
 (3A) ACETYLENE

=> d his

(FILE 'HOME' ENTERED AT 07:56:40 ON 02 AUG 2007)

FILE 'HCAPLUS' ENTERED AT 07:56:57 ON 02 AUG 2007

L1 0 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM (5N) THALLIUM (5N)  
L2 7512 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM  
L3 23 S L2 AND THALLIUM  
L4 22 S L2 AND INORGANIC (W) SUPPORT  
L5 22 S L4 SUBSET=L3  
L6 0 S L4 AND L3  
L7 3 S METHANE (3N) ETHYLENE (3N) HYDROGEN (3N) CARBON (W) DIOXIDE (

=> s 12 and 17

L8 0 L2 AND L7

=> d 17 1-3 ibib abs

L7 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2003:980655 HCAPLUS  
DOCUMENT NUMBER: 141:192714  
TITLE: Boundary gas concentration in 110 kV power  
transformers  
AUTHOR(S): Mladenov, Evgeni; Bijev, Hristo  
CORPORATE SOURCE: TSLEM, NEK EAD, Bulg.  
SOURCE: Energetika (Sofia, Bulgaria) (2002), (3), 30-33  
CODEN: ENGTBL; ISSN: 0324-1521  
PUBLISHER: Natsionalna Elektricheska Kompaniya EAD  
DOCUMENT TYPE: Journal  
LANGUAGE: Bulgarian  
AB The anal. of gases dissolved in transformer oils during exploitation of  
power transformers is widely used for monitoring of their operation and  
for early detection of possible problems. The boundary concentration of  
hydrogen, methane, ethane, ethylene,  
acetylene, carbon monoxide, carbon dioxide,  
oxygen and nitrogen in transformer oils were measured using gas chromatog.  
for 441 power transformers under standard working conditions. Any deviations  
from these boundary concns. could be used for malfunction detection.

L7 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1981:610679 HCAPLUS  
DOCUMENT NUMBER: 95:210679  
TITLE: Gibbs free energies of solute-solvent interactions for  
helium, neon, argon, krypton, xenon, hydrogen  
, oxygen, nitrogen, methane, sulfur  
hexafluoride, ethylene, carbon  
dioxide, and acetylene in various  
solvents: comparison of theoretical prediction with  
experiment  
AUTHOR(S): Brueckl, N.; Kim, J. I.  
CORPORATE SOURCE: Inst. Radiochem., Tech. Univ. Munich, Garching, 8046,  
Fed. Rep. Ger.  
SOURCE: Zeitschrift fuer Physikalische Chemie (Muenchen,  
Germany) (1981), 126(2), 133-50  
CODEN: ZPCFAX; ISSN: 0044-3336  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Gibbs free energies of solution of 13 gas solutes are investigated in 41

solvents by comparing expts. with theor. predictions from the scaled particle theory (SPT). The exptl. values are either from this work or from the literature. It is possible to divide the solutes in 2 groups: for one the theory predicts the solubilities reasonably well, and for the other not. C<sub>2</sub>H<sub>4</sub>, CO<sub>2</sub>, and C<sub>2</sub>H<sub>2</sub> belong to the latter group. Possible reasons of enhanced solubilities of these gases are discussed.

L7 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1981:539074 HCAPLUS

DOCUMENT NUMBER: 95:139074

TITLE: Representation of the molecular electrostatic potential by a net atomic charge model

AUTHOR(S): Cox, S. R.; Williams, D. E.

CORPORATE SOURCE: Dep. Chem., Univ. Louisville, Louisville, KY, 40292, USA

SOURCE: Journal of Computational Chemistry (1981), 2(3), 304-23

CODEN: JCCHDD; ISSN: 0192-8651

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Electrostatic potentials and Mulliken net atomic charges were calculated from STO-3G, 6-31G, and 6-31G\*\* SCF-MO wave functions for hydrogen fluoride, water, ammonia, methane, acetylene, ethylene, carbon dioxide, formaldehyde, methanol, formamide, formic acid, acetonitrile, diborane, and carbonate ion. In each case, optimized net atomic charges (potential-derived charges) were also obtained by fitting the electrostatic potentials calculated directly from the wave functions in a shell enveloping the mols. outside of their van der Waals surfaces. The electrostatic potentials calculated from the potential-derived charge distributions were then compared with the defined quantum-mech. electrostatic potentials and with the electrostatic potentials of the Mulliken charge distributions.

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L5 22 S L4 SUBSET=L3

L6 0 S L4 AND L3

L7 3 S METHANE (3N) ETHYLENE (3N) HYDROGEN (3N) CARBON (W) DIOXIDE (

L8 0 S L2 AND L7

=> d l3 1-23 abs ibib

L3 ANSWER 1 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A process for the preparation of a sterically hindered amine ether which comprises reacting a corresponding sterically hindered aminoxide with a C5-C18alk-1-ene in the presence of an organic hydroperoxide and optionally hydrogenating the resulting product as well as the product mixts. obtained therewith and their use as stabilizers and flame retardants.

ACCESSION NUMBER: 2005:1042220 HCAPLUS

DOCUMENT NUMBER: 143:347055

TITLE: A process for the synthesis of sterically hindered

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

amine ethers useful as stabilizing and fireproofing agents  
INVENTOR(S): Frey, Markus; Rast, Valerie; Braig, Adalbert; Kramer, Andreas  
PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.  
SOURCE: PCT Int. Appl., 71 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005090307	A1	20050929	WO 2005-EP50995	20050307
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 112005000536	T5	20070201	DE 2005-112005000536	20050307
PRIORITY APPLN. INFO.:			EP 2004-101047	A 20040315
			WO 2005-EP50995	W 20050307
OTHER SOURCE(S):		CASREACT 143:347055		
REFERENCE COUNT:		10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L3 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A process for the chemoselective hydrogenation of acetylene during ethylene purification utilizing a palladium-thallium-impregnated catalyst is described.

ACCESSION NUMBER: 2005:394789 HCAPLUS

DOCUMENT NUMBER: 142:430690

TITLE: Chemoselective hydrogenation catalyst for the removal of acetylene from ethylene streams

INVENTOR(S): Rokicki, Andrezej; Boyer, Jennifer A.; Blankenship, Steven A.

PATENT ASSIGNEE(S): Sud-Chemie, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 6 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005096217	A1	20050505	US 2003-696749	20031029
WO 2005044762	A1	20050519	WO 2004-US28605	20040902
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,				

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

PRIORITY APPLN. INFO.:

US 2003-696749

A 20031029

L3 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The process includes preparing a catalyst material containing Pd and preferably  
 addnl. additive materials (Ag), prereducing the Pd material and the addnl.  
 additive materials, storing the prereduced catalyst under a non-oxidizing  
 material and distributing the prereduced catalyst in a shipping container  
 under the non-oxidizing material to a customer for use in a selective  
 hydrogenation reaction.

ACCESSION NUMBER: 2003:511210 HCAPLUS

DOCUMENT NUMBER: 139:86978

TITLE: Process for production of a prereduced selective  
 hydrogenation catalyst for an olefinic feed stream in  
 reduction of higher unsaturation impurities with long  
 service life

INVENTOR(S): Blankenship, Steven A.; Perkins, Jennifer A.; Rokicki,  
 Andrzej; Fried, James E., Jr.

PATENT ASSIGNEE(S): Sud-Chemie, Inc., USA

SOURCE: PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003053574	A1	20030703	WO 2002-US240873	20021219
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,				
UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,				
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003134744	A1	20030717	US 2001-25663	20011219
AU 2002364090	A1	20030709	AU 2002-364090	20021219
EP 1458480	A1	20040922	EP 2002-798559	20021219
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1604816	A	20050406	CN 2002-825388	20021219
JP 2005512785	T	20050512	JP 2003-554327	20021219
ZA 2004004275	A	20050927	ZA 2004-4275	20040531
IN 2004KN00806	A	20060414	IN 2004-KN806	20040614
PRIORITY APPLN. INFO.:			US 2001-25663	A 20011219
			WO 2002-US40873	W 20021219

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The title compound (I) is prepared by reduction of 1,1-dichlorooctafluorocyclopentane (II) in the presence of a group VIII metal in the periodic table under H atmospheric. The preferred catalyst is a combination of palladium and at least one metal selected from silver, copper, gold, tellurium, zinc, chromium, molybdenum, thallium, bismuth, and zinc. This process gives I with high selectivity and is suitable for industrial production of I which is useful as a refrigerant, a foaming agent, and solvent. Thus, II was vaporized, introduced at 0.3 g/min together with N 50 mL/min and H 178 mL/min into a stainless steel reactor tube (16 mm diameter + 660 mm length) packed with 5%Cu-1%Pd catalyst supported on activated charcoal, and continuously hydrogenated at 85°. After 6 h, the product gas contained I 95.6, 1-chloro-2,2,3,3,4,4,5,5-octafluorocyclopentane 3.1, unreacted II 0.3, and 1,3,3,4,4,5,5-heptafluorocyclopentene 0.1%.

ACCESSION NUMBER: 2001:704694 HCAPLUS

DOCUMENT NUMBER: 135:256994

TITLE: Method for preparation of 1-chloroheptafluorocyclopentene by catalytic hydrogenation of 1,1-dichlorooctafluorocyclopentane

INVENTOR(S): Imura, Hideaki; Takada, Naokado; Komata, Takeo

PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan; Central Glass Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

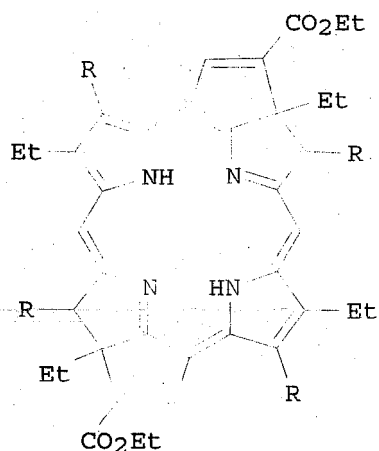
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001261594	A	20010926	JP 2000-76839	20000317
JP 3897081	B2	20070322		
PRIORITY APPLN. INFO.:			JP 2000-76839	20000317
OTHER SOURCE(S):		CASREACT 135:256994		

L3 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

GI



AB Bacteriochlorins and bacteriopurpurins useful for photodynamic therapy and methods for their manufacture are described herein. Methods for producing the claimed compds. include contacting meso-diacrylate porphyrin precursors with a solvent and a base catalyst at sufficient temperature and time to yield the desired conversion. Reduced bacteriochlorins can be produced by contacting unsatd. bacteriochlorins or bacteriopurpurins with a hydrogenation catalyst and hydrogen. These methods provide new routes for synthesizing bacteriochlorins and bacteriopurpurins from sym. and asym. meso-diacrylate porphyrins. Thus, bacteriopurpurin (I; R = Me, Et) and related compds. were prepared

ACCESSION NUMBER: 2000:861683 HCAPLUS

DOCUMENT NUMBER: 134:29250

TITLE: Bacteriochlorins and bacteriopurpurins useful as photoselective compounds for photodynamic therapy and a process for their production

INVENTOR(S): Robinson, Byron C.

PATENT ASSIGNEE(S): Miravant Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000073308	A2	20001207	WO 2000-US13999	20000523
WO 2000073308	A3	20010419		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6376483	B1	20020423	US 1999-320731	19990527
CA 2372239	A1	20001207	CA 2000-2372239	20000523
EP 1189906	A2	20020327	EP 2000-936158	20000523
EP 1189906	B1	20040414		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
AT 264331	T	20040415	AT 2000-936158	20000523
PRIORITY APPLN. INFO.:			US 1999-320731	A 19990527
			WO 2000-US13999	W 20000523

OTHER SOURCE(S): MARPAT 134:29250

L3 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The C10-14 linear alkyl arenes from n-alkane is prepared by (a) dehydrogenating a C10-14 n-alkane to form a n-alkene mixture containing a diene and aromatic byproducts, product; (b) hydrogenating selectively the diene to monoalkene; (c) alkylating the arene in the presence of alkylation catalyst; (d) distilling to give C10-14 alkylarene as main product; (e) hydrogenating the aromatic byproducts to convert to a cycloalkane; and (f) recycling the products obtained from step (e) to (a).

ACCESSION NUMBER: 2000:858700 HCAPLUS

DOCUMENT NUMBER: 133:364004

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

TITLE: Preparation of linear alkylarenes from n-alkanes  
 INVENTOR(S): Radici, P.; Cozzi, P.; Ontano, R.; Zatta, A.  
 PATENT ASSIGNEE(S): Condea Augusta S.p.A., Italy  
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 19 pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1249292	A	20000405	CN 1999-110473	19990716
IT 98MI1631	A1	20000117	IT 1998-MI1631	19980716
IN 1999MA00688	A	20061013	IN 1999-MA688	19990629
RU 2169134	C2	20010620	RU 1999-115479	19990714
US 6225516	B1	20010501	US 1999-353062	19990715
PRIORITY APPLN. INFO.:			IT 1998-MI1631	A 19980716

L3 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A method for purifying aliphatic aminonitriles (e.g., 6-aminocapronitrile) consists in subjecting the aminonitrile to hydrogenation in the presence of a supported catalyst containing at least a metal selected from palladium, platinum, ruthenium, osmium, iridium, rhodium, and with the addition of a promoting or preconditioning agent (i.e., thiols, phosphites, trialkyl phosphates, carbon monoxide, etc.) to improve the selectivity of the hydrogenation.

ACCESSION NUMBER: 1999:691068 HCAPLUS

DOCUMENT NUMBER: 131:288022

TITLE: Hydrogenation method and catalysts for purifying aliphatic aminonitriles from dinitrile impurities

INVENTOR(S): Brunelle, Jean-Pierre; Leconte, Philippe; Marion, Philippe

PATENT ASSIGNEE(S): Rhodia Fiber and Resin Intermediates, Fr.

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9954285	A1	19991028	WO 1999-FR862	19990413
W: BR, BY, CA, CN, CZ, ID, IN, JP, KR, PL, RO, RU, SG, SK, UA, US, VN				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2777562	A1	19991022	FR 1998-5044	19980416
FR 2777562	B1	20020719		
TW 239943	B	20050921	TW 1999-88105642	19990409
CA 2328767	A1	19991028	CA 1999-2328767	19990413
BR 9909686	A	20001219	BR 1999-9686	19990413
EP 1071657	A1	20010131	EP 1999-913398	19990413
EP 1071657	B1	20030820		
R: BE, DE, ES, FR, GB, IT, NL				
JP 2002512215	T	20020423	JP 2000-544626	19990413
RU 2222525	C2	20040127	RU 2000-128719	19990413
ES 2200514	T3	20040301	ES 1999-913398	19990413
IN 2000DN00298	A	20070209	IN 2000-DN298	20001030

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

US 6559333 B1 20030506 US 2001-673299 20010125  
PRIORITY APPLN. INFO.: FR 1998-5044 A 19980416  
WO 1999-FR862 W 19990413  
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN  
AB Aromatic or nonarom. aldehydes, ketones, carboxylate esters, carboxylic acids, and nitro groups (e.g., nitrobenzene) are hydrogenated to the corresponding alcs. or amines (e.g., aniline), resp., by contacting the hydrogenatable compound with hydrogen at 10-800°/0.1-10 MPa in the presence of a catalyst system containing  $\geq 1$  support(s) (e.g., alumina),  $\geq 1$  Group VIII metal(s) (e.g., Rh), and  $\geq 1$  element(s) chosen from Ge, Sn, Pb, Re, Ga, In, Au, Ag, and Tl which is(are) introduced into the catalyst in the form of an organometallic compound (e.g., tributyltin acetate) in an aqueous solution

ACCESSION NUMBER: 1999:438756 HCAPLUS  
DOCUMENT NUMBER: 131:58408  
TITLE: Preparation of a catalyst for the hydrogenation of organic functional groups.  
INVENTOR(S): Didillon, Blaise; Le Peltier, Fabienne  
PATENT ASSIGNEE(S): Institut Francais du Petrole, Fr.  
SOURCE: Fr. Demande, 13 pp.  
CODEN: FRXXBL  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2770518	A1	19990507	FR 1997-13688	19971031
FR 2770518	B1	19991210		
US 6294696	B1	20010925	US 1998-182635	19981030
PRIORITY APPLN. INFO.:			FR 1997-13688	A 19971031
OTHER SOURCE(S):		MARPAT 131:58408		

L3 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN  
AB The selectivity and reactivity in the hydrogenation of 1,3-butadiene catalyzed by Tl-modified 5% Pd/Al<sub>2</sub>O<sub>3</sub> catalysts vary with Tl loading and with catalyst reduction temperature. Thus, the main product was 1-butene and (E)-2-butene with a Tl/Pd atomic ratio of 0.5 and 2, resp., when the catalysts were reduced at 673 K. 1,3-Butadiene was hydrogenated selectively to 1-butene and (E)-2-butene when the catalyst with Tl/Pd = 2 was reduced at 300 and  $\geq 373$  K, resp. The formed butenes are not hydrogenated to butane, even after a long reaction time, when the catalyst with Tl/Pd = 2 was reduced at  $\geq 373$  K. Thus, the formation of Pd-Tl alloy or intermetallic compds. is suggested during the reduction which is responsible for the selectivity.

ACCESSION NUMBER: 1995:725859 HCAPLUS  
DOCUMENT NUMBER: 123:285144  
TITLE: Selectivity control in the hydrogenation of 1,3-butadiene on Tl-modified Pd catalyst  
AUTHOR(S): Ohnishi, Ryuichiro; Suzuki, Hisao; Ichikawa, Masaru  
CORPORATE SOURCE: Catalysis Research Center, Hokkaido Univ., Sapporo, 060, Japan  
SOURCE: Catalysis Letters (1995), 33(3,4), 341-8  
CODEN: CALEER; ISSN: 1011-372X  
PUBLISHER: Baltzer

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 123:285144

L3 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN  
AB The title catalysts, useful for the hydrogenation of alkynes, alkenes, and aromatic compds., contain a support,  $\geq 1$  Group VIII metal (e.g., Pd), and  $\geq 1$  addnl. metal (e.g., Sn, Ge, and/or W) which is introduced as an organic compound (e.g.,  $\text{Bu}_4\text{Sn}$ ) in a dilute solution  
ACCESSION NUMBER: 1995:538288 HCAPLUS  
DOCUMENT NUMBER: 122:268641  
TITLE: Catalysts for hydrogenation of unsaturated hydrocarbons  
INVENTOR(S): Le Peltier, Fabienne; Didillon, Blaise; Sarrazin, Patrick; Boitiaux, Jean-paul  
PATENT ASSIGNEE(S): Institut Francais du Petrole, Fr.  
SOURCE: Eur. Pat. Appl., 11 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 623387	A1	19941109	EP 1994-400890	19940425
EP 623387	B1	19980902		
EP 623387	B2	20010816		
R: AT, BE, DE, ES, FR, GB, GR, IT, NL				
FR 2704865	A1	19941110	FR 1993-5554	19930506
FR 2704865	B1	19950721		
AT 170424	T	19980915	AT 1994-400890	19940425
JP 07002702	A	19950106	JP 1994-94170	19940506
JP 3548868	B2	20040728		
PRIORITY APPLN. INFO.:			FR 1993-5554	A 19930506

L3 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN  
AB Trifluoroethenes, useful raw materials, were produced with  $>80\%$  selectivity over Pd catalysts modified with 9 metal chlorides and nitrates in hydrodechlorination of CFC-113. One of the roles of the additives was the suppression in hydrogenating activity of the Pd catalyst due to decrease of Pd ensemble size, which was examined in terms of hydrogenation of butadiene.

ACCESSION NUMBER: 1994:607958 HCAPLUS  
DOCUMENT NUMBER: 121:207958  
TITLE: Promoting role of metal additives in modified Pd catalysts for selective hydrodechlorination of CFC-113  
AUTHOR(S): Ohnishi, R.; Suzuki, H.; Wang, W. L.; Ichikawa, M.  
CORPORATE SOURCE: Catal. Res. Cent., Hokkaido Univ., Sapporo, 060, Japan  
SOURCE: Studies in Surface Science and Catalysis (1993), 77(New Aspects of Spillover Effect in Catalysis), 429-32  
CODEN: SSCTDM; ISSN: 0167-2991  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L3 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN  
AB This patent application describes a process for producing 1,1,1,2,3-pentafluoropropene in high yield from a readily available

1,1,1,2,3,3-hexafluoropropane industrially at low cost, which process comprises bringing the gaseous hexafluoropropane into contact with active carbon optionally containing a metallic salt to effect dehydrofluorination. Said application also describes a process for producing 1,1,1,2,3-pentafluoropropane with high conversion and high selectivity, which comprises reducing 1,1,1,2,3-pentafluoropropene with hydrogen in the presence of either a hydrogenation catalyst comprising palladium and one or more metals selected from among silver, copper, gold, tellurium, zinc, chromium, molybdenum and thallium, or a rhodium catalyst. 1,1,1,2,3,3-Hexafluoropropane (I) was passed through a reaction tube containing carbon at 450° to give 1,1,1,2,3-pentafluoropropene (E and Z isomers) (II) with 83.7% conversion of I and 96.9% selectivity for II. A mixture of II and hydrogen was introduced to a reaction tube filled with Cu-containing Pd catalyst on carbon (preparation given) at 80° to give 1,1,1,2,3-pentafluoropropane (III) with 99% conversion of II and 98% selectivity for III.

ACCESSION NUMBER: 1994:298045 HCAPLUS  
 DOCUMENT NUMBER: 120:298045  
 TITLE: Processes for producing 1,1,1,2,3-pentafluoropropane and producing 1,1,1,2,3-pentafluoropropane  
 INVENTOR(S): Aoyama, Hirokazu; Seki, Eiichi  
 PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan  
 SOURCE: PCT Int. Appl., 35 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9325510	A1	19931223	WO 1993-JP661	19930519
W: AU, BR, CA, JP, KR, RU, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9340888	A	19940104	AU 1993-40888	19930519
AU 664753	B2	19951130		
EP 644173	A1	19950322	EP 1993-910362	19930519
R: BE, DE, ES, FR, GB, IT, NL				
EP 726243	A1	19960814	EP 1996-105492	19930519
R: BE, DE, ES, FR, GB, IT, NL				
BR 9306493	A	19980915	BR 1993-6493	19930519
JP 3158440	B2	20010423	JP 1994-501327	19930519
CA 2137279	C	20010821	CA 1993-2137279	19930519
CN 1083040	A	19940302	CN 1993-106544	19930605
US 5679875	A	19971021	US 1994-338528	19941130
PRIORITY APPLN. INFO.:				
			JP 1992-171949	A 19920605
			JP 1992-179106	A 19920612
			JP 1992-262865	A 19920904
			JP 1992-262866	A 19920904
			JP 1992-360966	A 19921229
			EP 1993-910362	A3 19930519
			WO 1993-JP661	A 19930519

OTHER SOURCE(S): CASREACT 120:298045

L3 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The title compound (I), useful as a substitute for chlorofluorocarbons (no data) was prepared by hydrogenation of decafluoro-2-pentene (II) in the presence of a catalyst. Hydrogenation of II in the presence of Pt under hydrogen at 300° gave I with 90% selectivity for I.

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

ACCESSION NUMBER: 1994:54176 HCAPLUS  
DOCUMENT NUMBER: 120:54176  
TITLE: 1,1,1,2,2,5,5,5-octafluoropentane and production thereof  
INVENTOR(S): Aoyama, Hirokazu; Seki, Eiji; Koyama, Satoshi  
PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan  
SOURCE: PCT Int. Appl., 28 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9316023	A1	19930819	WO 1993-JP116	19930201
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRIORITY APPLN. INFO.:			JP 1992-21089	A 19920206
			JP 1992-44137	A 19920229
			JP 1992-79226	A 19920229
			JP 1992-84616	A 19920306

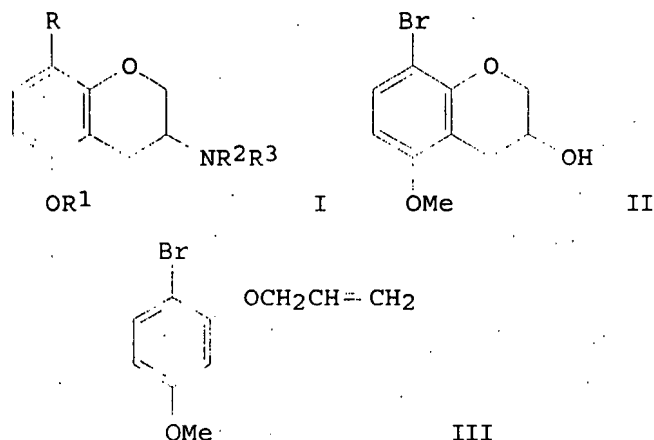
OTHER SOURCE(S): CASREACT 120:54176

L3 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A reaction scheme is suggested of the transformations of 1,3-cyclohexadiene (I) on Lindlars' catalysts having different degrees of occupation of the Pd surface with Pb or Tl in the liquid phase in H and N atmospheric. The disproportionation rate of I into benzene and cyclohexene (II) was almost independent of the degree of modification of the catalyst; the rate of hydrogenation of II decreased with decreasing surface of Pd. The hydrogenation rate of I also decreased with degree of occupation of the Pd surface by the both metals: the decrease was less pronounced than the rate of hydrogenation of II. In the N atmospheric the rate of hydrogenation reactions was not expressed.

ACCESSION NUMBER: 1992:489710 HCAPLUS  
DOCUMENT NUMBER: 117:89710  
TITLE: The effect of the specific surface of palladium in Lindlars' catalysts on the transformations of 1,3-cyclohexadiene  
AUTHOR(S): Paseka, Ivo; Cervený, Libor; Kluson, Petr  
CORPORATE SOURCE: Inst. Inorg. Chem., Czech.  
SOURCE: Sborník Vysoké školy chemicko-technologické v Praze, C: Organická chemie a technologie (1991), C31, 5-15  
CODEN: SVOCAF; ISSN: 0554-9728  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L3 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN  
GI



AB The sulfur-containing alkylaminochromans [I; R = SMe; R1 = Me; R2 = R3 = Pr; and R1 = H, Me; R = H; R2 = (CH2)2SMe; R3 = Pr] were prepared from bromomethoxychromanol (II). This precursor was synthesized from allyloxybromoanisole (III) by a thallium(III)-mediated ring closure reaction. Compound (II) also served as a starting material for the synthesis of bromo(dipropylamino)methoxychroman (I; R = Br; R1 = Me; R2 = R3 = Pr).

ACCESSION NUMBER: 1991:121959 HCAPLUS  
DOCUMENT NUMBER: 114:121959  
TITLE: Synthesis of 3-dialkylaminochromans via  
thallium(III)-induced cyclization of allyl  
aryl ethers

AUTHOR(S): Andersson, Bengt; Wikstroem, Hakan; Hallberg, Anders  
CORPORATE SOURCE: Dep. Pharmacol., Univ. Goeteborg, Goeteborg, S-400 33,  
Swed.

SOURCE: Acta Chemica Scandinavica (1990), 44(10), 1024-8  
CODEN: ACHSE7; ISSN: 0904-213X

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S) : CASREACT 114:121959

L3 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A review with 50 refs. on the title catalysts modified with Cu, Pb, Tl, Cd, or Bi.

ACCESSION NUMBER: 1991:8481 HCAPLUS

DOCUMENT NUMBER: 114:8481

TITLE: Hydrogenation in liquid phase with the use of platinum and palladium blacks for hydrogenation modified by inactive metals

AUTHOR(S) : Cervený, Libor; Paseka, Ivo

CORPORATE SOURCE: Dep. Org. Technol., Inst. Chem. Technol., Prague, Czech.

SOURCE: Sbornik Vysoke Skoly Chemicko-Technologicke v Praze,  
C: Organicka Chemie a Technologie (1988), C30, 103-23

~~CODEN~~: SVOCAF; ISSN: 0554-9728

DOCUMENT TYPE: Journal; General Review  
\* LANGUAGE: English

L3 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The liquid phase hydrogenation of 1,3-cyclooctadiene and 2,5-dimethyl-2,4-hexadiene was investigated on Pd catalysts modified by Pb

and Tl. Both dissolved and adsorbed H was established by an electrochem. potentiodynamic method enabling the estimation of the Pd black surface coverage by the modifying metal. The effect of Pd surface blocking on the kinetic parameters (reaction rate, selectivity) of dienes hydrogenation was studied.

ACCESSION NUMBER: 1989:7375 HCAPLUS  
DOCUMENT NUMBER: 110:7375  
TITLE: Hydrogenation of dienes on palladium catalyst modified by lead and thallium  
AUTHOR(S): Cervený, Libor; Vyskovská, Milada; Rozicka, Vlastimil; Paseka, Ivo  
CORPORATE SOURCE: Inst. Inorg. Chem., Czech. Acad. Sci., Prague, Czech.  
SOURCE: Sbornik Vysoké školy Chemicko-Technologické v Praze, C: Organická Chemie a Technologie (1986), C29, 5-17  
CODEN: SVOCAP; ISSN: 0554-9728  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L3 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The properties of metal-modified palladium blacks were investigated by hydrogenation of allyl Ph ether and allylbenzene with these catalysts. The kinetics of the hydrogenation process were affected by intentionally interfering with the reaction system (change of modifying metal, Pb, Tl, Cd, change in the degree of occupation of the catalyst's surface by this metal, and change in the solvent). It was demonstrated that the rate of hydrogenation of allyl Ph ether is independent on the running concentration of the substrate for all the catalysts used. The rate related to the free palladium surface decreased with increasing degree of occupation of the palladium surface by the modifying metal. An interaction between the solvent and the adsorbed allyl Ph ether and the influence of the type of the modifying metal on the properties of the modified catalyst were also proved. The results obtained were compared with the process of hydrogenation of allylbenzene under the same conditions.

ACCESSION NUMBER: 1988:610361 HCAPLUS  
DOCUMENT NUMBER: 109:210361  
TITLE: Hydrogenation of allyl phenyl ether and allylbenzene on palladium catalysts modified with lead, thallium and cadmium  
AUTHOR(S): Cervený, Libor; Franzová, Pavla; Ruzicka, Vlastimil  
CORPORATE SOURCE: Dep. Org. Technol., Vys. Šk. Chemickotechnol., Prague, Czech.  
SOURCE: Sbornik Vysoké školy Chemicko-Technologické v Praze, C: Organická Chemie a Technologie (1986), C29, 19-27  
CODEN: SVOCAP; ISSN: 0554-9728  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L3 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Synthesis gas is converted to isobutanol-rich alc. mixts. over a catalyst containing ZrO<sub>2</sub> and/or Ce oxide 25-99.998 (preferably 50-99.9), Pd or Pd compds. 0.001-5 (preferably 0.005-3), and ≥1 alkali or alkaline earth metal oxide 0.001-9 (preferably 0.1-5) weight%. Conversion of synthesis gas at 420°, 250 bar, and 21,100 h<sup>-1</sup> volume space velocity over a catalyst consisting of ZrO<sub>2</sub> 75.6, K<sub>2</sub>O 0.5, MnO 22.25, and Pd 1.45 weight% resulted in a space-time yield of alcs. of 1059 g/L-h catalyst; the crude product contained MeOH 56.8, isobutanol 30.2, and C<sub>5</sub>+ alc. 13.0 weight%. Typical research and motor octane nos. of the crude alc. products are 108 and 91, resp.

ACCESSION NUMBER: 1987:87452 HCAPLUS

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

DOCUMENT NUMBER: 106:87452  
TITLE: Manufacture of isobutanol-rich alcohol mixtures from synthesis gas  
INVENTOR(S): Roeper, Michael; Keim, Wilhelm; Seibring, Joachim; Kolle-Goergen, Georg  
PATENT ASSIGNEE(S): Union Rheinische Braunkohlen Kraftstoff A.-G., Fed. Rep. Ger.  
SOURCE: Ger. Offen., 7 pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3524317	A1	19870115	DE 1985-3524317	19850708
DE 3524317	C2	19891026		
EP 208102	A2	19870114	EP 1986-107060	19860523
EP 208102	A3	19880203		

R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE  
PRIORITY APPLN. INFO.: DE 1985-3524317 A 19850708

L3 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The competitive hydrogenation of 2,5-dimethyl-2,4-hexadiene and cis-2-heptene catalyzed by palladium black modified by lead, thallium, and cadmium to various degrees of surface coverage, was investigated. An electrochem. method was used to determine the amts. of hydrogen dissolved and adsorbed on the catalyst. The effect of adsorbed atoms of lead, thallium and cadmium on the kinetics of the competitive hydrogenation is discussed in terms of measured values of the reaction selectivity.

ACCESSION NUMBER: 1987:4384 HCAPLUS

DOCUMENT NUMBER: 106:4384

TITLE: Hydrogenation of 2,5-dimethyl-2,4-hexadiene and cis-2-heptene on palladium black modified by lead, thallium, and cadmium

AUTHOR(S): Cervený, Libor; Paseka, Ivo; Tobola, Stanislav; Ruzicka, Vlastimil

CORPORATE SOURCE: Dep. Org. Technol., Inst. Chem. Technol., Prague, 166 28, Switz.

SOURCE: Journal of Chemical Technology and Biotechnology (1986), 36(3), 144-51

CODEN: JCTBED; ISSN: 0268-2575

DOCUMENT TYPE:

LANGUAGE: Journal  
English

L3 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The title reactions were studied with 2,5-dimethyl-2,4-hexadiene/1-heptene and 2-octyne/1-heptene pairs. Decisive for adsorptivity and hydrogenation rate was the hydrocarbon-metal bond strength, which governed the ability to form surface  $\pi$  complexes involving delocalized  $\pi$  electrons. The Pb and Th additives lowered the d nature of Pd and the ability to form  $\pi$  bonds with the hydrocarbons being adsorbed. The alkene interaction was affected more than the interactions of the alkadiene or alkyne.

ACCESSION NUMBER: 1985:422007 HCAPLUS

DOCUMENT NUMBER: 103:22007

TITLE: Competitive hydrogenation of unsaturated hydrocarbons on palladium catalysts modified with lead and

thallium  
 AUTHOR(S): Cervený, Libor; Paseka, Ivo; Surma, Karel; Nguyen Thi Thanh; Ruzicka, Vlastimil  
 CORPORATE SOURCE: Dep. Org. Technol., Prague Inst. Chem. Technol., Prague, 166 28, Czech.  
 SOURCE: Collection of Czechoslovak Chemical Communications (1985), 50(1), 61-70  
 CODEN: CCCCAK; ISSN: 0366-547X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

L3 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AB For increased activity of a (Pd) [7440-05-3] catalyst, 1 of the following promoting elements was added: In [7440-74-6], Y [7440-65-5], or (TI) [7440-28-0]. Preferably 5-10 weight% of promoter was used.

ACCESSION NUMBER: 1974:496794 HCAPLUS

DOCUMENT NUMBER: 81:96794

TITLE: Catalyst for hydrogenation of organic compounds containing palladium on a support

INVENTOR(S): Sokol'skii, D. V.; Popov, N. I.; Malkina, N. Ya.; Plakidin, V. L.; Rashevskaya, S. T.; Rostovtseva, E. V.; Palyanichko, L. G.

PATENT ASSIGNEE(S): Kazakh Chemical Technological Institute

SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1973, 50(47), 12.

CODEN: URXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 407571	A1	19731210	SU 1971-1717370	19711123
PRIORITY APPLN. INFO.:			SU 1971-1717370	A 19711123

L3 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The influence of salts representing various groups of the periodic table on the selectivity of hydrogenation of C<sub>2</sub>H<sub>2</sub> in the presence of 5% Pd/Al<sub>2</sub>O<sub>3</sub> was examined. A relation between selectivity and the place of the elements in the periodic system was observed. Additives and the concentration of salt could

change the direction of the hydrogenation reaction. Hydrogenation in solns. of Cd, In, or Sn salts was recommended to obtain C<sub>2</sub>H<sub>4</sub>. The hydrogenation in the above solns. and in solns. of salts of alkali and alkaline earth elements was recommended for the purification of C<sub>2</sub>H<sub>4</sub> (in industrial gases) to remove trace amts. of C<sub>2</sub>H<sub>2</sub>. Solns. containing compds. from the group Yb, Ag, Ga, Tl, Pb, and others were recommended for the polymerization of C<sub>2</sub>H<sub>4</sub>.

ACCESSION NUMBER: 1973:477959 HCAPLUS

DOCUMENT NUMBER: 79:77959

TITLE: Hydrogenation of acetylene in solutions of various salts

AUTHOR(S): Sokol'skii, D. V.; Khasanova, R. N.

CORPORATE SOURCE: USSR

SOURCE: Dokl. Vses. Konf. Khim. Atsetilena, 4th (1972), Volume 3, 260-8

DOCUMENT TYPE: From: Ref. Zh., Khim. 1973, Abstr. No. 5B1074  
LANGUAGE: Conference  
Russian

=> d 14 1-23 abs ibib

L4 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A selective hydrogenation catalyst for conversion of a highly unsatd. feedstock to an unsatd. feedstock (e.g., selective conversion of alkadienes and alkynes to olefins in an olefin-rich feedstock with no saturation of olefins to alkanes) are prepared by: (1) contacting an inorg. support with a chlorine-containing compound to form a chlorided catalyst support, and (2) adding palladium to the support. The chlorine-containing compound is selected from HCl, an alkali metal chloride, an alkaline earth metal chloride, a chlorohydrocarbon of general structures  $C_2Cl_xHy$  ( $x + y = 6$ ) and  $CCl_xHy$  ( $x + y = 4$ ), and amine chloride salts of general structure  $N(HvRwR1xR2yR3z)Cl$ , in which R, R1, R2, and R3 = Me, Et, Pr, or Bu; each of v, w, x, y, and z can be 0 to 4, provided that  $v + w + x + y + z = 4$ . The catalyst can also contain a selectivity enhancing agent (e.g., promoter), especially silver. A preferred composition includes 0.01-0.8

weight% Pd and 0.01-5 weight% Ag, on an  $Al_2O_3$  support containing 10-1200 weight ppm Cl.

ACCESSION NUMBER: 2007:119180 HCAPLUS

DOCUMENT NUMBER: 146:187221

TITLE: Selective hydrogenation of alkadienes and alkynes in olefinic feedstocks on palladium catalysts supported on chlorided inorganic oxides

INVENTOR(S): Cheung, Tin-Tack Peter; Bergmeister, Joseph; Hong, Zongxuan

PATENT ASSIGNEE(S): Chevron Phillips Chemical Company LP, USA

SOURCE: U.S. Pat. Appl. Publ., 14pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007027030	A1	20070201	US 2006-458937	20060720
WO 2007015742	A2	20070208	WO 2006-US27298	20060714
WO 2007015742	A3	20070426		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA			

PRIORITY APPLN. INFO.: US 2005-702745P P 20050727

OTHER SOURCE(S): MARPAT 146:187221

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

L4 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AB Chemoselective hydrogenation catalysts and their use in a process for the removal of alkynes and alkadienes from alkenes are described. The catalyst composition comprises palladium, silver, potassium, and an inorg. support material, where the catalyst composition contains <0.3% potassium. In the presence of sulfur-containing impurities (e.g., COS), these catalysts yield a much smaller increase in T<sub>1</sub> (cleanup temperature) and higher ethylene selectivity is achieved (i.e., hydrogenation of acetylene into ethylene).

ACCESSION NUMBER: 2004:1127159 HCAPLUS  
 DOCUMENT NUMBER: 142:56819  
 TITLE: Chemoselective hydrogenation catalysts and their use in a process for the removal of alkynes and alkadienes from alkenes  
 INVENTOR(S): Bergmeister, Joseph J.; Delzer, Gary A.; Cheung, Tin-Tack P.  
 PATENT ASSIGNEE(S): Chevron Phillips Chemical Company CPChem, USA  
 SOURCE: U.S. Pat. Appl. Publ., 6 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004260131	A1	20041223	US 2003-600609	20030623
AU 2004251156	A1	20050106	AU 2004-251156	20040527
CA 2529940	A1	20050106	CA 2004-2529940	20040527
WO 2005000773	A1	20050106	WO 2004-US16580	20040527
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1651585	A1	20060503	EP 2004-753411	20040527
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1809521	A	20060726	CN 2004-80017411	20040527
JP 2007518676	T	20070712	JP 2006-517147	20040527
PRIORITY APPLN. INFO.:			US 2003-600609	A 20030623
			WO 2004-US16580	W 20040527
OTHER SOURCE(S): MARPAT 142:56819				

L4 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AB Catalysts for selective hydrogenation of alkadienes and alkynes to the corresponding alkenes in a petroleum refinery gas stream contain Pd and Ag as active metals on an inorg. support containing an optional alkali metal fluoride promoter. The catalysts are treated with a diluting gas containing ≤50 mol% CO under first treating conditions, and then contacted with a hydrogen-containing gas under a second set of treating conditions. Maximum concns. of Pd and Ag and inorg. fluoride on the

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

support are, resp. 3, 20, and 10 weight%. The support can consist of alumina, aluminates, titania, and zirconia.

ACCESSION NUMBER: 2003:222376 HCAPLUS  
DOCUMENT NUMBER: 138:240428  
TITLE: Hydrocarbon hydrogenation catalyst composition, a process of treating such catalyst composition, and a process of using such catalyst composition  
INVENTOR(S): Cheung, Tin-tack Peter; Bergmeister, Joseph J.; Johnson, Marvin M.  
PATENT ASSIGNEE(S): Chevron Phillips Chemical Co. LP, USA  
SOURCE: U.S. Pat. Appl. Publ., 13 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003055302	A1	20030320	US 2001-949130	20010907
US 6734130	B2	20040511		
WO 2004078683	A1	20040916	WO 2003-US7109	20030305
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003218023	A1	20040928	AU 2003-218023	20030305
US 2004192984	A1	20040930	US 2004-819584	20040407
US 7038096	B2	20060502		

PRIORITY APPLN. INFO.: US 2001-949130 A 20010907  
WO 2003-US7109 A 20030305

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB: A catalyst composition comprising an inorg. support material, a Pd component, a Ag component, and a promoter component having the formula  $XYF_n$ , wherein X is an alkali metal (e.g., K, Rb, Cs), Y is an element selected from the group consisting Sb, P, B, Al, Ga, In, Tl, and As, and n is an integer which makes  $YF_n$  a monovalent anion. The catalyst is used in the selective hydrogenation of acetylene. The catalyst is made by incorporating a Pd component, a Ag component, and a promoter component into an inorg. support.

ACCESSION NUMBER: 2002:157649 HCAPLUS  
DOCUMENT NUMBER: 136:202155  
TITLE: Catalyst and process for selective hydrogenation of acetylene contained in an ethylene stream  
INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.  
PATENT ASSIGNEE(S): Phillips Petroleum Company, USA  
SOURCE: PCT Int. Appl., 27 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002016032	A1	20020228	WO 2001-US26063	20010821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 6465391	B1	20021015	US 2000-643266	20000822
CA 2418644	A1	20020228	CA 2001-2418644	20010821
AU 2001085124	A5	20020304	AU 2001-85124	20010821
EP 1315563	A1	20030604	EP 2001-964247	20010821
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2004248732	A1	20041209	US 2002-260018	20021210
US 7009085	B2	20060307		
PRIORITY APPLN. INFO.:			US 2000-643266	A1 20000822
			WO 2001-US26063	W 20010821
REFERENCE COUNT:	11	THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L4 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Hydrogenation activity and stability of supported Pd catalysts immobilized by poly(2-methyl-5-vinylpyridine) was studied in relation to acid-base properties of inorg. supports (MgO, ZnO, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>) and modifying additives (Co, Fe, Ni). Basic inorg. supports and Ni additive significantly increased reaction rate, selectivity, and maximum yield of the target product in hydrogenation of 3,7,11-trimethyl-1-dodecyn-3-ol. The yield of 3,7,11-trimethyl-1-dodecen-3-ol in ethanol was 80%.

ACCESSION NUMBER: 2001:874945 HCAPLUS

DOCUMENT NUMBER: 136:184892

TITLE: Hydrogenation of 3,7,11-trimethyl-3-dodecyl-1-ol poly(2-methyl-5-vinylpyridine)-modified oxide-supported bimetallic catalysts

AUTHOR(S): Kulazhanov, K. S.; Kurmanbaeva, I. A.; Zharmagambetova, A. K.

CORPORATE SOURCE: Inst. Org. Kataliza Elektrokhim. im. D. V. Sokol'skogo, MON RK, Almaty, Kazakhstan

SOURCE: Izvestiya Ministerstva Obrazovaniya i Nauki Respubliki Kazakhstan, Natsional'noi Akademii Nauk Respubliki Kazakhstan, Seriya Khimicheskaya (2001), (2), 48-51  
CODEN: IMSKFR; ISSN: 1025-9341

PUBLISHER: Nauchno-Izdatel'skii Tsentr "Gylym"

DOCUMENT TYPE: Journal

LANGUAGE: Russian

L4 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Alkynes and alkadienes in an olefinic feedstream (e.g., from alkene manufacture by pyrolysis or steam cracking of naphtha or natural gas liqs. feedstocks) are selectively hydrogenated to the corresponding alkene, optionally in the presence of a sulfur-containing impurity or catalyst poison, over a

catalyst consisting of Pd, Ag, an alkali metal compound, and an inorg. support (e.g., alumina, silica, zirconia, titania, zinc titanate, an aluminosilicate, and a spinel), especially alumina. The alkali metal compds. are selected from halides, hydroxides, carbonates, bicarbonates, nitrates, and carboxylates (preferably a fluoride). The selective hydrogenation is carried out at 10-300° and 136 kPa to 13.88 MPa.

ACCESSION NUMBER: 2001:434949 HCAPLUS  
DOCUMENT NUMBER: 135:48471  
TITLE: Alkali metal fluoride-promoted palladium-silver catalysts for selective hydrogenation of alkadienes and alkynes in alkene manufacture  
INVENTOR(S): Bergmeister, Joseph J.; Cheung, Tin-Tack Peter; Delzer, Gary A.; Zisman, Stan A.; Brown, Scott H.; Johnson, Marvin M.; Byers, Jim D.; Tiedtke, Darin B.; Young, David A.  
PATENT ASSIGNEE(S): Phillips Petroleum Company, USA  
SOURCE: PCT Int. Appl., 39 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001041923	A1	20010614	WO 2000-US42068	20001110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2392259	A1	20010614	CA 2000-2392259	20001110
BR 2000016337	A	20020827	BR 2000-16337	20001110
EP 1259319	A1	20021127	EP 2000-992242	20001110
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 1999-459846 A1 19991213  
WO 2000-US42068 W 20001110  
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN  
AB The cycloolefin polymers are effectively hydrogenized in the presence of hydrogenation catalysts containing Ni, Pd, and/or Pt of crystallites with diameter  $\leq 100$  Å, preferably activated with heterogeneous solid supports. After the hydrogenation, catalysts are easily eliminated. Thus, hydrogenating polydicyclopentadiene over Ni/diatomite catalysts, followed with filtering (16 min), gave the product with hydrogenation rate  $\geq 99.5\%$ .  
ACCESSION NUMBER: 2001:254897 HCAPLUS  
DOCUMENT NUMBER: 134:267051  
TITLE: Manufacture of hydrogenated cycloolefin polymers with metal microcrystal-containing catalysts

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

INVENTOR(S): Kobuchi, Kazuyuki; Suzuki, Teruhiko  
 PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001098016	A	20010410	JP 1999-274474	19990928
PRIORITY APPLN. INFO.:			JP 1999-274474	19990928

L4 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported catalyst composition for selective hydrogenation of diolefins and alkynes to monoolefins comprises a Pd component,  $\geq 1$  alkali metal iodide (e.g., KI), and an inorg. support (e.g., Al<sub>2</sub>O<sub>3</sub>). The Pd component is concentrated in an area within apprx.150  $\mu$  of the exterior surface of the composition

ACCESSION NUMBER: 2000:531696 HCAPLUS  
 DOCUMENT NUMBER: 133:120804  
 TITLE: Hydrocarbon hydrogenation and catalyst therefor  
 INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.  
 PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
 SOURCE: U.S., 16 pp., Cont.-in-part of U.S. 5,866,735.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6096933	A	20000801	US 1998-39041	19980313
US 5866735	A	19990202	US 1997-867872	19970604
WO 9946041	A1	19990916	WO 1999-US5043	19990308
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9929007	A	19990927	AU 1999-29007	19990308
EP 1062038	A1	20001227	EP 1999-909915	19990308
R: BE, DE, FR, GB, IT, NL				
IN 2003KO00040	A	20040821	IN 2003-KO40	20030129
PRIORITY APPLN. INFO.:				
			US 1996-595326	B2 19960201
			US 1997-867872	A2 19970604
			IN 1996-CA1930	A3 19961105
			US 1998-39041	A1 19980313
			WO 1999-US5043	W 19990308

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported hydrogenation catalyst composition, comprising

palladium, an inorg. support (e.g., alumina), and a selectivity enhancer selected from phosphorus, a phosphorus compound (e.g., K<sub>2</sub>HPO<sub>4</sub>), sulfur, a sulfur compound (e.g., K<sub>2</sub>SO<sub>4</sub>), or combinations of  $\geq 2$  such substances, is described as is the selective hydrogenation of highly unsatd. hydrocarbons such as diolefins (e.g., propadiene) and/or alkynes (e.g., acetylene) with hydrogen into less unsatd. hydrocarbons such as monoolefins (e.g., ethylene) with reduced formation of catalyst-deactivating oligomers.

ACCESSION NUMBER: 2000:277943 HCAPLUS  
 DOCUMENT NUMBER: 132:279645  
 TITLE: Process and catalysts for the selective hydrogenation of highly unsaturated hydrocarbons into less unsaturated hydrocarbons with reduced oligomer formation and reduced catalyst deactivation  
 INVENTOR(S): Kimble, James B.; Bergmeister, Joseph J.  
 PATENT ASSIGNEE(S): Phillips Petroleum Company, USA  
 SOURCE: PCT Int. Appl., 21 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000023403	A1	20000427	WO 1999-US20152	19990902
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6127588	A	20001003	US 1998-176127	19981021
AU 9958032	A1	20000508	AU 1999-58032	19990902
US 6635600	B1	20031021	US 2000-638782	20000815
PRIORITY APPLN. INFO.:			US 1998-176127	A1 19981021
			WO 1999-US20152	W 19990902
REFERENCE COUNT:	11	THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L4 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The method comprises passing a solution of an aromatic vinyl/conjugated diene block copolymer together with H gas through a fixed-bed reactor packed with a hydrogenation catalyst comprising a Pt group metal deposited on an inorg. support to convert the unsatd. bonds in the aromatic ring blocks and conjugated diene blocks of the block copolymer into saturated bonds through hydrogenation, where (1) the block copolymer has a number-average mol. weight (Mn) of 40,000 to 450,000, (2) the conjugated diene blocks in the block copolymer have a Mn of 30,000 or higher, (3) the concentration of the block copolymer in its solution is 5-30%, and (4) the fixed catalyst bed has a temperature of 150-250°.

ACCESSION NUMBER: 1999:795868 HCAPLUS  
 DOCUMENT NUMBER: 132:36249  
 TITLE: Method of hydrogenating block copolymer  
 INVENTOR(S): Sasaki, Yoro; Ishida, Hiroshi; Fujiwara, Masahiro;

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

Yamaguchi, Tatsuo  
PATENT ASSIGNEE(S): Asahi Kasei Kogyo Kabushiki Kaisha, Japan  
SOURCE: PCT Int. Appl., 31 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964479	A1	19991216	WO 1999-JP3080	19990609
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
JP 11349626	A	19991221	JP 1998-176537	19980610
JP 2000095815	A	20000404	JP 1998-282061	19980918
PRIORITY APPLN. INFO.:			JP 1998-176537	A 19980610
			JP 1998-282061	A 19980918
REFERENCE COUNT:	4	THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L4 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported hydrogenation catalyst composition is disclosed which comprises a palladium component, at least one alkali metal iodide (such as potassium iodide), and an inorg. support material (such as alumina). The palladium component is concentrated in an area within about 150  $\mu$ m of the exterior surface of the composition

ACCESSION NUMBER: 1999:595053 HCAPLUS  
DOCUMENT NUMBER: 131:230266  
TITLE: Process and catalyst for selective hydrogenation of dienes and alkynes to olefins  
INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin Merrill  
PATENT ASSIGNEE(S): Phillips Petroleum Company, USA  
SOURCE: PCT Int. Appl., 48 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 4  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9946041	A1	19990916	WO 1999-US5043	19990308
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6096933	A	20000801	US 1998-39041	19980313

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

AU 9929007 A 19990927 AU 1999-29007 19990308  
EP 1062038 A1 20001227 EP 1999-909915 19990308

R: BE, DE, FR, GB, IT, NL

PRIORITY APPLN. INFO.:

US 1998-39041 A1 19980313  
US 1996-595326 B2 19960201  
US 1997-867872 A2 19970604  
WO 1999-US5043 W 19990308

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Selective catalysts for hydrogenation of highly unsatd. hydrocarbons  
(e.g., compds. containing a triple bond or  $\geq 2$  double bonds) to less  
unsatd. hydrocarbons (e.g., containing no triple bonds and fewer double bonds)  
in hydrocarbon refining streams consist of an inorg. oxide-supported Pd  
(including Pd metal and Pd oxides) and an alkali metal iodide. The  
inorg. support is selected from alumina, silica,  
titania, zirconia, aluminosilicates, zinc aluminate, and zinc titanate. A  
preferred alkali metal iodide is KI. Preferred catalyst compns. are  
0.05-1 weight% Pd and 0.05-5 weight% KI.

ACCESSION NUMBER: 1999:90346 HCAPLUS

DOCUMENT NUMBER: 130:141543

TITLE: Palladium-based selective catalysts  
for hydrogenation of alkadienes and alkynes  
in olefinic processing streams

INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA

SOURCE: U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 595,326,  
abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5866735	A	19990202	US 1997-867872	19970604
AU 9670499	A	19970807	AU 1996-70499	19961030
AU 692723	B2	19980611		
SG 76488	A1	20001121	SG 1996-11020	19961102
IN 190085	A1	20030607	IN 1996-CA1930	19961105
TW 400374	B	20000801	TW 1996-85113609	19961107
JP 09220472	A	19970826	JP 1996-318028	19961128
JP 3934715	B2	20070620		
BR 9605736	A	19980825	BR 1996-5736	19961128
EP 792685	A1	19970903	EP 1997-101625	19970131
EP 792685	B1	20020904		

R: BE, DE, ES, FR, GB, IT, NL

ES 2183029 T3 20030316 ES 1997-101625 19970131

US 6096933 A 20000801 US 1998-39041 19980313

IN 2003KO00040 A 20040821 IN 2003-KO40 20030129

PRIORITY APPLN. INFO.:

US 1996-595326 B2 19960201  
IN 1996-CA1930 A3 19961105  
US 1997-867872 A2 19970604

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A composition and a process for using the composition in a selective hydrogenation of a highly unsatd. hydrocarbon such as, for example, an alkyne or diolefin, to a less unsatd. hydrocarbon such as, for example, an alkene or a monoolefin, are disclosed. The composition comprising palladium, a selectivity enhancer, and an inorg. support wherein the palladium and selectivity enhancer are each present in a sufficient amount to effect the selective hydrogenation of a highly unsatd. hydrocarbon. Optionally, the composition can comprise silver. Also optionally, the palladium is present as skin distributed on the surface of the support. The composition can further comprise an alkali metal-containing compds. such as, for example, potassium fluoride.

ACCESSION NUMBER: 1998:608565 HCAPLUS  
DOCUMENT NUMBER: 129:218238  
TITLE: Hydrogenation catalysts for unsaturated hydrocarbons  
INVENTOR(S): Brown, Scott Hudson; Cheung, Tin-tack Peter  
PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
SOURCE: PCT Int. Appl., 37 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9837966	A1	19980903	WO 1998-US3905	19980227
W: CA, KR, MX				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6127310	A	20001003	US 1997-808047	19970227
US 2001001805	A1	20010524	US 1998-196347	19981119
PRIORITY APPLN. INFO.:			US 1997-808047	A 19970227
REFERENCE COUNT:	4	THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L4 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported hydrogenation catalyst composition consists essentially of a Pd component,  $\geq 1$  alkali metal iodide (preferably KI) and an inorg. support material (preferably Al<sub>2</sub>O<sub>3</sub>). This catalyst composition is employed in the selective hydrogenation of C<sub>3</sub>-12 diolefins with hydrogen gas to the corresponding monoolefins.

ACCESSION NUMBER: 1997:744527 HCAPLUS  
DOCUMENT NUMBER: 127:331903  
TITLE: Hydrogenation of diolefins to monoolefins and catalysts therefor  
INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.  
PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
SOURCE: Can. Pat. Appl., 32 pp.  
CODEN: CPXXEB  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 4  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2196349	A1	19970802	CA 1997-2196349	19970130
CA 2196349	C	20001031		
AU 9670499	A	19970807	AU 1996-70499	19961030

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AU 692723	B2	19980611		
SG 76488	A1	20001121	SG 1996-11020	19961102
IN 190085	A1	20030607	IN 1996-CA1930	19961105
TW 400374	B	20000801	TW 1996-85113609	19961107
JP 09220472	A	19970826	JP 1996-318028	19961128
JP 3934715	B2	20070620		
BR 9605736	A	19980825	BR 1996-5736	19961128
EP 792685	A1	19970903	EP 1997-101625	19970131
EP 792685	B1	20020904		
R: BE, DE, ES, FR, GB, IT, NL				
ES 2183029	T3	20030316	ES 1997-101625	19970131
IN 2003KO00040	A	20040821	IN 2003-KO40	20030129
PRIORITY APPLN. INFO.:			US 1996-595326	A 19960201
			IN 1996-CA1930	A3 19961105

L4 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A catalyst composition comprises Pd,  $\geq 1$  chemical bound alkali metal (preferably K), chemical bound F, and an inorg. support material (preferably alumina), wherein the atomic ratio of F to alkali metal is (1.3-4):1. Preferably, Ag is also present. The catalyst is employed in the selective hydrogenation of C2-C10 alkynes (preferably acetylene) to the corresponding alkenes in the presence of S-containing impurities. Thus, a spent com. Pd-Ag/Al<sub>2</sub>O<sub>3</sub> acetylene hydrogenation catalyst was calcined 4 h at 1000°F to reduce the C content to <0.2%, impregnated with aqueous KOH containing dextrose, calcined 2 h in air at 538°C to show 0.5% K, impregnated with aqueous NH<sub>4</sub>F, and calcined 2 h at 538°C in air to give a product with F/K atomic ratio apprx.2:1, which effectively reduced C<sub>2</sub>H<sub>2</sub> to C<sub>2</sub>H<sub>4</sub> over the temperature range 134-210°F and was minimally affected by the temporary presence of COS.

ACCESSION NUMBER: 1996:705602 HCAPLUS  
DOCUMENT NUMBER: 125:332253  
TITLE: Alkyne hydrogenation catalyst, its preparation and use  
INVENTOR(S): Zisman, Stan A.; Kimble, James B.; Brown, Scott H.  
PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
SOURCE: Eur. Pat. Appl., 10 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 738540	A1	19961023	EP 1996-106101	19960418
EP 738540	B1	20010829		
R: BE, DE, ES, FR, GB, IT, NL				
US 5587348	A	19961224	US 1995-424733	19950419
CA 2168387	A1	19961020	CA 1996-2168387	19960130
CA 2168387	C	19990713		
AU 9650436	A	19961031	AU 1996-50436	19960402
AU 679873	B2	19970710		
JP 08290060	A	19961105	JP 1996-91393	19960412
ES 2159658	T3	20011016	ES 1996-106101	19960418
US 5698752	A	19971216	US 1996-685120	19960723
PRIORITY APPLN. INFO.:			US 1995-424733	A 19950419

L4 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A porous inorg. material such as alumina or silica is impregnated with a polymer or polycondensable compds. (e.g., a phenol-o-xylene mixture or

methylcyclopentane-BzOH mixture) and heated at  $\leq 1000^\circ$  under non-oxidizing conditions to prepare a carbon-coated material for use as a catalyst support, e.g., for a Pd-containing catalyst for the hydrogenation of 4-amino-1,3-dimethyl-5-nitrosouracil or PhCN to convert nitro groups to amino groups.

ACCESSION NUMBER: 1995:997773 HCAPLUS  
DOCUMENT NUMBER: 124:90931  
TITLE: Preparation of carbon-coated porous catalyst supports  
INVENTOR(S): Schoedel, Rainer; Geyer, Reinhard; Birke, Peter; Keck, Michael  
PATENT ASSIGNEE(S): Leuna-Katalysatoren GmbH, Germany; Kataleuna GmbH Catalysts  
SOURCE: Eur. Pat. Appl., 10 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

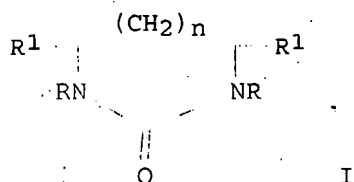
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 681868	A1	19951115	EP 1995-107123	19950511
EP 681868	B1	20030730		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL				
DE 4416903	A1	19951116	DE 1994-4416903	19940513
DE 4416903	C2	19960822		
DE 4433023	A1	19960328	DE 1994-4433023	19940916
DE 4433023	C2	19961128		
DE 19516273	A1	19961114	DE 1995-19516273	19950508
AT 246042	T	20030815	AT 1995-107123	19950511
PRIORITY APPLN. INFO.:				
			DE 1994-4416903	A 19940513
			DE 1994-4433023	A 19940916
			DE 1995-19516273	A 19950508

L4 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The reactions of Pt-group metal compds. with higher aliphatic amines can be used to synthesize highly active metal complex catalysts for hydrogenation of unsatd. hydrocarbons. Immobilization of homogeneous catalysts on the surfaces of oxide-type inorg. supports gives supported catalysts exhibiting stability of catalytic action, as well as stability toward poisoning or thermal treatment. The Pd complex catalysts exhibit high activity ( $>75,000 \text{ h}^{-1}$ ) and high selectivity for hydrogenation of conjugated dienes or acetylenes to alkenes with yields approaching 98-100% (almost complete conversion). The Rh and Pt complex catalyst systems are active for hydrogenation of alkenes, dienes, and acetylenes to saturated hydrocarbons. The specific activities approach  $30,000 \text{ mol g-atom-metal}^{-1} \text{ h}^{-1}$  at  $20^\circ$  and  $0.1 \text{ MPaH}_2$ .

ACCESSION NUMBER: 1991:543554 HCAPLUS  
DOCUMENT NUMBER: 115:143554  
TITLE: Nonconventional catalysts for hydrogenation of unsaturated compounds based on Platinum Group metals with nitrogen-containing ligand complexes  
AUTHOR(S): Frolov, V. M.; Parenago, O. P.; Shuikina, L. P.; Novikova, A. V.; Kliger, E. G.; Turisbekova, K. K.  
CORPORATE SOURCE: Inst. Neftekhim. Sint. im. Topchieva, Moscow, USSR  
SOURCE: Neftekhimiya (1991), 31(2), 197-204  
CODEN: NEFTAH; ISSN: 0028-2421  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian

L4 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN  
GI



AB The title compds. (I; R = Me; R1 = H; n = 0, 1), useful as solvents, are prepared by hydrogenation of I (R = Me, R1 = OH) or I (R = HOCH2, R1 = H) over a supported Pd catalyst containing S, Se, or Te and, optionally, rare earth metals. An economically small amount of Pd on an inorg. support is used, and the catalyst can be regenerated, an improvement over the use of Pd supported on active C. Thus, a mixture of 50% aqueous I (R = HOCH2, R1 = H, n = 1) [prepared by hydroxymethylation of the corresponding I (R = R1 = H)] and 85% H3PO4 was hydrogenated at 120° and 80 bar over a catalyst comprising 1% Pd and 1% S on  $\gamma$ -Al2O3 to give 90% pyrimidinone I (R = Me, R1 = H, n = 1).

ACCESSION NUMBER: 1990:55903 HCAPLUS  
DOCUMENT NUMBER: 112:55903  
TITLE: Process for preparation of cyclic N,N'-dimethylureas  
INVENTOR(S): Franz, Lothar; Eggersdorfer, Manfred; Voges, Dieter  
PATENT ASSIGNEE(S): BASF A.-G., Fed. Rep. Ger.  
SOURCE: Ger. Offen., 4 pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3800083	A1	19890713	DE 1988-3800083	19880105
EP 323647	A1	19890712	EP 1988-121874	19881230
EP 323647	B1	19911030		
R: AT, BE, DE, ES, FR, GB, NL, SE				
AT 69047	T	19911115	AT 1988-121874	19881230
ES 2038736	T3	19930801	ES 1988-121874	19881230
US 4925940	A	19900515	US 1989-293358	19890104
JP 01279873	A	19891110	JP 1989-178	19890105
PRIORITY APPLN. INFO.:			DE 1988-3800083	A 19880105
			EP 1988-121874	A 19881230
OTHER SOURCE(S): CASREACT 112:55903; MARPAT 112:55903				

L4 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The title catalysts, especially useful for hydrogenation of organic compds., are prepared by immersing porous inorg. supports in solns. containing dicarboxylatodiamminepalladium (II) complexes and reducing the impregnated complexes. An aqueous suspension containing 38 g activated C powders and 4.3 g cis-oxalatodiamminepalladium was refluxed at 100° and bubbled with H and the resulting solids were filtered off and vacuum-dried

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to give 40 g 5% Pd/C catalyst whose aqueous suspension showed pH 7.10 initially and 6.84 after autoclaving under 4 kg/cm<sup>2</sup> H for 3 h.

ACCESSION NUMBER: 1989:541610 HCAPLUS  
DOCUMENT NUMBER: 111:141610  
TITLE: Manufacture of neutral palladium catalysts  
INVENTOR(S): Nakanishi, Chihiro  
PATENT ASSIGNEE(S): Tanaka Noble Metal Industrial Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01090037	A	19890405	JP 1987-245257	19870929
PRIORITY APPLN. INFO.:			JP 1987-245257	19870929

L4 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A lecture on the synthesis of Pt and Pd complexes with organic dyes immobilized on some organic and inorg. supports. The catalytic activity of these complexes was studied in the hydrogenation of nitro groups, conjugated double bonds and acetylenic bonds.

ACCESSION NUMBER: 1988:93919 HCAPLUS  
DOCUMENT NUMBER: 108:93919  
TITLE: Hydrogenation of some organic compounds catalyzed by platinum and palladium complexes  
AUTHOR(S): Shopov, D.; Rakovski, S.  
CORPORATE SOURCE: Inst. Kinet. Catal., Sofia, 1113, Bulg.  
SOURCE: Homogeneous Heterog. Catal., Proc. Int. Symp. Relat. Homogeneous Heterog. Catal., 5th (1986), 601-15.  
Editor(s): Ermakov, Yu. I.; Likholobov, V. A. VNU  
Sci. Press: Utrecht, Neth.  
CODEN: 56DTA9  
DOCUMENT TYPE: Conference  
LANGUAGE: English

L4 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Ethylenediamine was treated with  $\gamma$ -chloropropyltriethoxysilane to give  $\gamma$ -(ethylenediamine)propyltriethoxysilane, which was hydrolytically polymerized in the presence of SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, or Si-Mg adsorbents and treated with PdCl<sub>2</sub> to give complex catalysts. These catalysts were useful for hydrogenation of styrene (I), acrylonitrile (II), nitrobenzene (III), and 1-hexene (IV), with catalytic activity decreasing in the order I > II > III > IV. The catalysts supported on SiO<sub>2</sub> exhibited higher catalytic activity than those on Al<sub>2</sub>O<sub>3</sub> and Si-Mg adsorbents. The catalysts could be easily recovered from the solution and reused without severe loss of activity.

ACCESSION NUMBER: 1987:578556 HCAPLUS  
DOCUMENT NUMBER: 107:178556  
TITLE: Silsesquioxane-supported transition metal catalysts. IX. Synthesis and activity of poly{[ $\gamma$ -(aminoethylamino)propyl]silsesquioxane}-palladium complex  
AUTHOR(S): Xiao, Chaobo; Lin, Yigeng; Ren, Xiaofeng; Chen, Yuanyin  
CORPORATE SOURCE: Wuhan Univ., Wuhan, Peop. Rep. China  
SOURCE: Wuhan Daxue Xuebao, Ziran Kexueban (1986), (4), 65-71

CODEN: WTHPDI; ISSN: 0253-9888

DOCUMENT TYPE: Journal  
LANGUAGE: Chinese

L4 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The catalytic hydrogenation of cyclopentadiene (I) [542-92-7] to cyclopentene (II) [142-29-0] was investigated at atmospheric pressure and 20° in MeOH and PhMe with Pd carrier catalysts in the presence of n-octylcatechol as polymerization inhibitor. Using 0.56% Pd/Al<sub>2</sub>O<sub>3</sub>, a 100% selectivity of the hydrogenation of I to II was achieved in PhMe. In MeOH, selectivity of hydrogenation was lower and partial polymerization of I occurred.

ACCESSION NUMBER: 1982:440091 HCAPLUS

DOCUMENT NUMBER: 97:40091

TITLE: Selective hydrogenation of cyclopentadiene in the liquid phase on palladium catalysts

AUTHOR(S): Cervený, L.; Vopatová, J.; Ruzicka, V.

CORPORATE SOURCE: Dep. Org. Technol., Inst. Chem. Technol., Prague, 166 28, Czech.

SOURCE: Reaction Kinetics and Catalysis Letters (1982), 19(1-2), 223-6

CODEN: RKCLAU; ISSN: 0304-4122

DOCUMENT TYPE: Journal

LANGUAGE: English

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(FILE 'HOME' ENTERED AT 07:56:40 ON 02 AUG 2007)

FILE 'HCAPLUS' ENTERED AT 07:56:57 ON 02 AUG 2007

L1 0 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM (5N) THALLIUM (5N)  
 L2 7512 S CATALYST (3N) HYDROGENATION (5N) PALLADIUM  
 L3 23 S L2 AND THALLIUM  
 L4 22 S L2 AND INORGANIC (W) SUPPORT  
 L5 22 S L4 SUBSET=L3  
 L6 0 S L4 AND L3  
 L7 3 S METHANE (3N) ETHYLENE (3N) HYDROGEN (3N) CARBON (W) DIOXIDE (3N)  
 L8 0 S L2 AND L7

=&gt; d 15 1-23 abs ibib

L5 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A selective hydrogenation catalyst for conversion of a highly unsatd. feedstock to an unsatd. feedstock (e.g., selective conversion of alkadienes and alkynes to olefins in an olefin-rich feedstock with no saturation of olefins to alkanes) are prepared by: (1) contacting an inorg. support with a chlorine-containing compound to form a chlorided catalyst support, and (2) adding palladium to the support. The chlorine-containing compound is selected from HCl, an alkali metal chloride, an alkaline earth metal chloride, a chlorohydrocarbon of general structures C<sub>2</sub>Cl<sub>x</sub>H<sub>y</sub> (x + y = 6) and CCl<sub>x</sub>H<sub>y</sub> (x + y = 4), and amine chloride salts of general structure N(H<sub>v</sub>R<sub>w</sub>R<sub>1</sub>xR<sub>2</sub>yR<sub>3</sub>z)Cl, in which R, R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> = Me, Et, Pr, or Bu; each of v, w, x, y, and z can be 0 to 4, provided that v + w + x + y + z = 4. The catalyst can also contain a selectivity enhancing agent (e.g., promoter), especially silver. A preferred composition includes 0.01-0.8 weight% Pd and 0.01-5 weight% Ag, on an Al<sub>2</sub>O<sub>3</sub> support containing 10-1200 weight ppm Cl.

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ACCESSION NUMBER: 2007:119180 HCAPLUS  
DOCUMENT NUMBER: 146:187221  
TITLE: Selective hydrogenation of alkadienes and alkynes in olefinic feedstocks on palladium catalysts supported on chlorided inorganic oxides  
INVENTOR(S): Cheung, Tin-Tack Peter; Bergmeister, Joseph; Hong, Zongxuan  
PATENT ASSIGNEE(S): Chevron Phillips Chemical Company LP, USA  
SOURCE: U.S. Pat. Appl. Publ., 14pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007027030	A1	20070201	US 2006-458937	20060720
WO 2007015742	A2	20070208	WO 2006-US27298	20060714
WO 2007015742	A3	20070426		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRIORITY APPLN. INFO.: US 2005-702745P P 20050727  
OTHER SOURCE(S): MARPAT 146:187221

L5 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Chemoselective hydrogenation catalysts and their use in a process for the removal of alkynes and alkadienes from alkenes are described. The catalyst composition comprises palladium, silver, potassium, and an inorg. support material, where the catalyst composition contains <0.3% potassium. In the presence of sulfur-containing impurities (e.g., COS), these catalysts yield a much smaller increase in T1 (cleanup temperature) and higher ethylene selectivity is achieved (i.e., hydrogenation of acetylene into ethylene).

ACCESSION NUMBER: 2004:1127159 HCAPLUS  
DOCUMENT NUMBER: 142:56819  
TITLE: Chemoselective hydrogenation catalysts and their use in a process for the removal of alkynes and alkadienes from alkenes  
INVENTOR(S): Bergmeister, Joseph J.; Delzer, Gary A.; Cheung, Tin-Tack P.  
PATENT ASSIGNEE(S): Chevron Phillips Chemical Company CPChem, USA  
SOURCE: U.S. Pat. Appl. Publ., 6 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004260131	A1	20041223	US 2003-600609	20030623
AU 2004251156	A1	20050106	AU 2004-251156	20040527
CA 2529940	A1	20050106	CA 2004-2529940	20040527
WO 2005000773	A1	20050106	WO 2004-US16580	20040527
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1651585	A1	20060503	EP 2004-753411	20040527
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1809521	A	20060726	CN 2004-80017411	20040527
JP 2007518676	T	20070712	JP 2006-517147	20040527
PRIORITY APPLN. INFO.:			US 2003-600609	A 20030623
			WO 2004-US16580	W 20040527
OTHER SOURCE(S):		MARPAT 142:56819		

L5 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Catalysts for selective hydrogenation of alkadienes and alkynes to the corresponding alkenes in a petroleum refinery gas stream contain Pd and Ag as active metals on an inorg. support containing an optional alkali metal fluoride promoter. The catalysts are treated with a diluting gas containing  $\leq 50$  mol% CO under first treating conditions, and then contacted with a hydrogen-containing gas under a second set of treating conditions. Maximum concns. of Pd and Ag and inorg. fluoride on the support are, resp. 3, 20, and 10 weight%. The support can consist of alumina, aluminates, titania, and zirconia.

ACCESSION NUMBER: 2003:222376 HCAPLUS

DOCUMENT NUMBER: 138:240428

TITLE: Hydrocarbon hydrogenation catalyst composition, a process of treating such catalyst composition, and a process of using such catalyst composition

INVENTOR(S): Cheung, Tin-tack Peter; Bergmeister, Joseph J.; Johnson, Marvin M.

PATENT ASSIGNEE(S): Chevron Phillips Chemical Co. LP, USA

SOURCE: U.S. Pat. Appl. Publ., 13 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003055302	A1	20030320	US 2001-949130	20010907
US 6734130	B2	20040511		
WO 2004078683	A1	20040916	WO 2003-US7109	20030305
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003218023 A1 20040928 AU 2003-218023 20030305  
 US 2004192984 A1 20040930 US 2004-819584 20040407  
 US 7038096 B2 20060502

PRIORITY APPLN. INFO.: US 2001-949130 A 20010907  
 WO 2003-US7109 A 20030305

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A catalyst composition comprising an inorg. support material, a Pd component, a Ag component, and a promoter component having the formula  $XYF_n$ , wherein X is an alkali metal (e.g., K, Rb, Cs), Y is an element selected from the group consisting Sb, P, B, Al, Ga, In, Tl, and As, and n is an integer which makes  $YF_n$  a monovalent anion. The catalyst is used in the selective hydrogenation of acetylene. The catalyst is made by incorporating a Pd component, a Ag component, and a promoter component into an inorg. support.

ACCESSION NUMBER: 2002:157649 HCAPLUS

DOCUMENT NUMBER: 136:202155

TITLE: Catalyst and process for selective hydrogenation of acetylene contained in an ethylene stream

INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.

PATENT ASSIGNEE(S): Phillips Petroleum Company, USA

SOURCE: PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002016032	A1	20020228	WO 2001-US26063	20010821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 6465391	B1	20021015	US 2000-643266	20000822
CA 2418644	A1	20020228	CA 2001-2418644	20010821
AU 2001085124	A5	20020304	AU 2001-85124	20010821
EP 1315563	A1	20030604	EP 2001-964247	20010821
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2004248732	A1	20041209	US 2002-260018	20021210
US 7009085	B2	20060307		

PRIORITY APPLN. INFO.: US 2000-643266 A1 20000822

WO 2001-US26063 W 20010821

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Hydrogenation activity and stability of supported Pd catalysts immobilized by poly(2-methyl-5-vinylpyridine) was studied in relation to acid-base properties of inorg. supports (MgO, ZnO, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>) and modifying additives (Co, Fe, Ni). Basic inorg. supports and Ni additive significantly increased reaction rate, selectivity, and maximum yield of the target product in hydrogenation of 3,7,11-trimethyl-1-dodecyn-3-ol. The yield of 3,7,11-trimethyl-1-dodecen-3-ol in ethanol was 80%.

ACCESSION NUMBER: 2001:874945 HCAPLUS

DOCUMENT NUMBER: 136:184892

TITLE: Hydrogenation of 3,7,11-trimethyl-3-dodecyl-1-ol  
poly(2-methyl-5-vinylpyridine)-modified  
oxide-supported bimetallic catalysts

AUTHOR(S): Kulazhanov, K. S.; Kurmanbaeva, I. A.;  
Zharmagambetova, A. K.

CORPORATE SOURCE: Inst. Org. Kataliza-Elektrokhim. im. D. V.  
Sokol'skogo, MON RK, Almaty, Kazakhstan

SOURCE: Izvestiya Ministerstva Obrazovaniya i Nauki Respubliki  
Kazakhstan, Natsional'noi Akademii Nauk Respubliki  
Kazakhstan, Seriya Khimicheskaya (2001), (2), 48-51  
CODEN: IMSKFR; ISSN: 1025-9341

PUBLISHER: Nauchno-Izdatel'skii Tsentr "Gylym"

DOCUMENT TYPE: Journal

LANGUAGE: Russian

L5 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Alkynes and alkadienes in an olefinic feedstream (e.g., from alkene manufacture by pyrolysis or steam cracking of naphtha or natural gas liqs. feedstocks) are selectively hydrogenated to the corresponding alkene, optionally in the presence of a sulfur-containing impurity or catalyst poison, over a catalyst consisting of Pd, Ag, an alkali metal compound, and an inorg. support (e.g., alumina, silica, zirconia, titania, zinc titanate, an aluminosilicate, and a spinel), especially alumina. The alkali metal compds. are selected from halides, hydroxides, carbonates, bicarbonates, nitrates, and carboxylates (preferably a fluoride). The selective hydrogenation is carried out at 10-300° and 136 kPa to 13.88 MPa.

ACCESSION NUMBER: 2001:434949 HCAPLUS

DOCUMENT NUMBER: 135:48471

TITLE: Alkali metal fluoride-promoted palladium  
-silver catalysts for selective  
hydrogenation of alkadienes and alkynes in  
alkene manufacture

INVENTOR(S): Bergmeister, Joseph J.; Cheung, Tin-Tack Peter;  
Delzer, Gary A.; Zisman, Stan A.; Brown, Scott H.;  
Johnson, Marvin M.; Byers, Jim D.; Tiedtke, Darin B.;  
Young, David A.

PATENT ASSIGNEE(S): Phillips Petroleum Company, USA

SOURCE: PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001041923	A1	20010614	WO 2000-US42068	20001110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2392259	A1	20010614	CA 2000-2392259	20001110
BR 2000016337	A	20020827	BR 2000-16337	20001110
EP 1259319	A1	20021127	EP 2000-992242	20001110
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRIORITY APPLN. INFO.:			US 1999-459846	A1 19991213
			WO 2000-US42068	W 20001110
REFERENCE COUNT:	3	THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L5 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The cycloolefin polymers are effectively hydrogenized in the presence of hydrogenation catalysts containing Ni, Pd, and/or Pt of crystallites with diameter  $\leq 100$  Å, preferably activated with heterogeneous solid supports. After the hydrogenation, catalysts are easily eliminated. Thus, hydrogenating polydicyclopentadiene over Ni/diatomite catalysts, followed with filtering (16 min), gave the product with hydrogenation rate  $\geq 99.5\%$ .

ACCESSION NUMBER: 2001:254897 HCAPLUS  
DOCUMENT NUMBER: 134:267051  
TITLE: Manufacture of hydrogenated cycloolefin polymers with metal microcrystal-containing catalysts  
INVENTOR(S): Kobuchi, Kazuyuki; Suzuki, Teruhiko  
PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001098016	A	20010410	JP 1999-274474	19990928
PRIORITY APPLN. INFO.:			JP 1999-274474	19990928

L5 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported catalyst composition for selective hydrogenation of diolefins and alkynes to monoolefins comprises a Pd component,  $\geq 1$  alkali metal iodide (e.g., KI), and an inorg. support (e.g., Al<sub>2</sub>O<sub>3</sub>). The Pd component is concentrated in an area within apprx.150  $\mu$  of the exterior surface of the composition

ACCESSION NUMBER: 2000:531696 HCAPLUS  
DOCUMENT NUMBER: 133:120804  
TITLE: Hydrocarbon hydrogenation and catalyst therefor  
INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
SOURCE: U.S., 16 pp., Cont.-in-part of U.S. 5,866,735.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 4  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6096933	A	20000801	US 1998-39041	19980313
US 5866735	A	19990202	US 1997-867872	19970604
WO 9946041	A1	19990916	WO 1999-US5043	19990308
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9929007	A	19990927	AU 1999-29007	19990308
EP 1062038	A1	20001227	EP 1999-909915	19990308
R: BE, DE, FR, GB, IT, NL				
IN 2003KO00040	A	20040821	IN 2003-KO40	20030129
PRIORITY APPLN. INFO.:				
			US 1996-595326	B2 19960201
			US 1997-867872	A2 19970604
			IN 1996-CA1930	A3 19961105
			US 1998-39041	A1 19980313
			WO 1999-US5043	W 19990308

REFERENCE COUNT: 18. THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported hydrogenation catalyst composition, comprising palladium, an inorg. support (e.g., alumina), and a selectivity enhancer selected from phosphorus, a phosphorus compound (e.g., K<sub>2</sub>HPO<sub>4</sub>), sulfur, a sulfur compound (e.g., K<sub>2</sub>SO<sub>4</sub>), or combinations of  $\geq 2$  such substances, is described as is the selective hydrogenation of highly unsatd. hydrocarbons such as diolefins (e.g., propadiene) and/or alkynes (e.g., acetylene) with hydrogen into less unsatd. hydrocarbons such as monoolefins (e.g., ethylene) with reduced formation of catalyst-deactivating oligomers.

ACCESSION NUMBER: 2000:277943 HCAPLUS

DOCUMENT NUMBER: 132:279645

TITLE: Process and catalysts for the selective hydrogenation of highly unsaturated hydrocarbons into less unsaturated hydrocarbons with reduced oligomer formation and reduced catalyst deactivation

INVENTOR(S): Kimble, James B.; Bergmeister, Joseph J.

PATENT ASSIGNEE(S): Phillips Petroleum Company, USA

SOURCE: PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2000023403	A1	20000427	WO 1999-US20152	19990902
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6127588	A	20001003	US 1998-176127	19981021
AU 9958032	A1	20000508	AU 1999-58032	19990902
US 6635600	B1	20031021	US 2000-638782	20000815
PRIORITY APPLN. INFO.:			US 1998-176127	A1 19981021
			WO 1999-US20152	W 19990902
REFERENCE COUNT:	11	THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L5 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN  
AB The method comprises passing a solution of an aromatic vinyl/conjugated diene block copolymer together with H gas through a fixed-bed reactor packed with a hydrogenation catalyst comprising a Pt group metal deposited on an inorg. support to convert the unsatd. bonds in the aromatic ring blocks and conjugated diene blocks of the block copolymer into saturated bonds through hydrogenation, where (1) the block copolymer has a number-average mol. weight (Mn) of 40,000 to 450,000, (2) the conjugated diene blocks in the block copolymer have a Mn of 30,000 or higher, (3) the concentration of the block copolymer in its solution is 5-30%, and (4) the fixed catalyst bed has a temperature of 150-250°.

ACCESSION NUMBER: 1999:795868 HCAPLUS  
DOCUMENT NUMBER: 132:36249  
TITLE: Method of hydrogenating block copolymer  
INVENTOR(S): Sasaki, Yoro; Ishida, Hiroshi; Fujiwara, Masahiro; Yamaguchi, Tatsuo  
PATENT ASSIGNEE(S): Asahi Kasei Kogyo Kabushiki Kaisha, Japan  
SOURCE: PCT Int. Appl., 31 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964479	A1	19991216	WO 1999-JP3080	19990609
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
JP 11349626	A	19991221	JP 1998-176537	19980610
JP 2000095815	A	20000404	JP 1998-282061	19980918
PRIORITY APPLN. INFO.:			JP 1998-176537	A 19980610

JP 1998-282061 A 19980918

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported hydrogenation catalyst composition is disclosed which comprises a palladium component, at least one alkali metal iodide (such as potassium iodide), and an inorg. support material (such as alumina). The palladium component is concentrated in an area within about 150  $\mu\text{m}$  of the exterior surface of the composition

ACCESSION NUMBER: 1999:595053 HCAPLUS

DOCUMENT NUMBER: 131:230266

TITLE: Process and catalyst for selective hydrogenation of dienes and alkynes to olefins

INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin Merrill

PATENT ASSIGNEE(S): Phillips Petroleum Company, USA

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9946041	A1	19990916	WO 1999-US5043	19990308
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6096933	A	20000801	US 1998-39041	19980313
AU 9929007	A	19990927	AU 1999-29007	19990308
EP 1062038	A1	20001227	EP 1999-909915	19990308
R:	BE, DE, FR, GB, IT, NL			

PRIORITY APPLN. INFO.:

US 1998-39041	A1 19980313
US 1996-595326	B2 19960201
US 1997-867872	A2 19970604
WO 1999-US5043	W 19990308

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Selective catalysts for hydrogenation of highly unsatd. hydrocarbons (e.g., compds. containing a triple bond or  $\geq 2$  double bonds) to less unsatd. hydrocarbons (e.g., containing no triple bonds and fewer double bonds) in hydrocarbon refining streams consist of an inorg. oxide-supported Pd (including Pd metal and Pd oxides) and an alkali metal iodide. The inorg. support is selected from alumina, silica, titania, zirconia, aluminosilicates, zinc aluminate, and zinc titanate. A preferred alkali-metal iodide is KI. Preferred catalyst compns. are 0.05-1 weight% Pd and 0.05-5 weight% KI.

ACCESSION NUMBER: 1999:90346 HCAPLUS

DOCUMENT NUMBER: 130:141543

TITLE: Palladium-based selective catalysts for hydrogenation of alkadienes and alkynes

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

in olefinic processing streams  
INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.  
PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
SOURCE: U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 595,326,  
abandoned.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 4  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5866735	A	19990202	US 1997-867872	19970604
AU 9670499	A	19970807	AU 1996-70499	19961030
AU 692723	B2	19980611		
SG 76488	A1	20001121	SG 1996-11020	19961102
IN 190085	A1	20030607	IN 1996-CA1930	19961105
TW 400374	B	20000801	TW 1996-85113609	19961107
JP 09220472	A	19970826	JP 1996-318028	19961128
JP 3934715	B2	20070620		
BR 9605736	A	19980825	BR 1996-5736	19961128
EP 792685	A1	19970903	EP 1997-101625	19970131
EP 792685	B1	20020904		
R: BE, DE, ES, FR, GB, IT, NL				
ES 2183029	T3	20030316	ES 1997-101625	19970131
US 6096933	A	20000801	US 1998-39041	19980313
IN 2003KO00040	A	20040821	IN 2003-KO40	20030129
PRIORITY APPLN. INFO.:			US 1996-595326	B2 19960201
			IN 1996-CA1930	A3 19961105
			US 1997-867872	A2 19970604

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A composition and a process for using the composition in a selective  
hydrogenation

of a highly unsatd. hydrocarbon such as, for example, an alkyne or  
diolefin, to a less unsatd. hydrocarbon such as, for example, an alkene or  
a monoolefin, are disclosed. The composition comprising palladium, a  
selectivity enhancer, and an inorg. support wherein  
the palladium and selectivity enhancer are each present in a sufficient  
amount to effect the selective hydrogenation of a highly unsatd.  
hydrocarbon. Optionally, the composition can comprise silver. Also  
optionally, the palladium is present as skin distributed on the surface of  
the support. The composition can further comprise an alkali metal-containing  
compsds. such as, for example, potassium fluoride.

ACCESSION NUMBER: 1998:608565 HCAPLUS

DOCUMENT NUMBER: 129:218238

TITLE: Hydrogenation catalysts for unsaturated hydrocarbons

INVENTOR(S): Brown, Scott Hudson; Cheung, Tin-tack Peter

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA

SOURCE: PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9837966	A1	19980903	WO 1998-US3905	19980227
W: CA, KR, MX				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6127310	A	20001003	US 1997-808047	19970227
US 2001001805	A1	20010524	US 1998-196347	19981119
PRIORITY APPLN. INFO.:			US 1997-808047	A 19970227
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L5 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A supported hydrogenation catalyst composition consists essentially of a Pd component,  $\geq 1$  alkali metal iodide (preferably KI) and an inorg. support material (preferably Al<sub>2</sub>O<sub>3</sub>). This catalyst composition is employed in the selective hydrogenation of C<sub>3</sub>-12 diolefins with hydrogen gas to the corresponding monoolefins.

ACCESSION NUMBER: 1997:744527 HCAPLUS

DOCUMENT NUMBER: 127:331903

TITLE: Hydrogenation of diolefins to monoolefins and catalysts therefor

INVENTOR(S): Cheung, Tin-Tack Peter; Johnson, Marvin M.

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA

SOURCE: Can. Pat. Appl., 32 pp.

CODEN: CPXXEB

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2196349	A1	19970802	CA 1997-2196349	19970130
CA 2196349	C	20001031		
AU 9670499	A	19970807	AU 1996-70499	19961030
AU 692723	B2	19980611		
SG 76488	A1	20001121	SG 1996-11020	19961102
IN 190085	A1	20030607	IN 1996-CA1930	19961105
TW 400374	B	20000801	TW 1996-85113609	19961107
JP 09220472	A	19970826	JP 1996-318028	19961128
JP 3934715	B2	20070620		
BR 9605736	A	19980825	BR 1996-5736	19961128
EP 792685	A1	19970903	EP 1997-101625	19970131
EP 792685	B1	20020904		
R: BE, DE, ES, FR, GB, IT, NL				
ES 2183029	T3	20030316	ES 1997-101625	19970131
IN 2003KO00040	A	20040821	IN 2003-KO40	20030129
PRIORITY APPLN. INFO.:			US 1996-595326	A 19960201
			IN 1996-CA1930	A3 19961105

L5 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A catalyst composition comprises Pd,  $\geq 1$  chemical bound alkali metal (preferably K), chemical bound F, and an inorg. support material (preferably alumina), wherein the atomic ratio of F to alkali metal is (1.3-4):1. Preferably, Ag is also present. The catalyst is employed in the selective hydrogenation of C<sub>2</sub>-C<sub>10</sub> alkynes (preferably acetylene) to the corresponding alkenes in the presence of S-containing impurities. Thus, a spent com. Pd-Ag/Al<sub>2</sub>O<sub>3</sub> acetylene hydrogenation catalyst was calcined 4 h at 1000°F to reduce the C content to  $<0.2\%$ , impregnated with aqueous

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

KOH containing dextrose, calcined 2 h in air at 538°C to show 0.5% K, impregnated with aqueous NH<sub>4</sub>F, and calcined 2 h at 538°C in air to give a product with F/K atomic ratio approx. 2:1, which effectively reduced C<sub>2</sub>H<sub>2</sub> to C<sub>2</sub>H<sub>4</sub> over the temperature range 134-210°F and was minimally affected by the temporary presence of COS.

ACCESSION NUMBER: 1996:705602 HCAPLUS  
 DOCUMENT NUMBER: 125:332253  
 TITLE: Alkyne hydrogenation catalyst, its preparation and use  
 INVENTOR(S): Zisman, Stan A.; Kimble, James B.; Brown, Scott H.  
 PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
 SOURCE: Eur. Pat. Appl., 10 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 738540	A1	19961023	EP 1996-106101	19960418
EP 738540	B1	20010829		
R: BE, DE, ES, FR, GB, IT, NL				
US 5587348	A	19961224	US 1995-424733	19950419
CA 2168387	A1	19961020	CA 1996-2168387	19960130
CA 2168387	C	19990713		
AU 9650436	A	19961031	AU 1996-50436	19960402
AU 679873	B2	19970710		
JP 08290060	A	19961105	JP 1996-91393	19960412
ES 2159658	T3	20011016	ES 1996-106101	19960418
US 5698752	A	19971216	US 1996-685120	19960723
PRIORITY APPLN. INFO.:			US 1995-424733	A 19950419

L5 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A porous inorg. material such as alumina or silica is impregnated with a polymer or polycondensable compds. (e.g., a phenol-o-xylene mixture or methylcyclopentane-BzOH mixture) and heated at ≤1000° under non-oxidizing conditions to prepare a carbon-coated material for use as a catalyst support, e.g., for a Pd-containing catalyst for the hydrogenation of 4-amino-1,3-dimethyl-5-nitrosouracil or PhCN to convert nitro groups to amino groups.

ACCESSION NUMBER: 1995:997773 HCAPLUS  
 DOCUMENT NUMBER: 124:90931  
 TITLE: Preparation of carbon-coated porous catalyst supports  
 INVENTOR(S): Schoedel, Rainer; Geyer, Reinhard; Birke, Peter; Keck, Michael  
 PATENT ASSIGNEE(S): Leuna-Katalysatoren GmbH, Germany; Kataleuna GmbH Catalysts  
 SOURCE: Eur. Pat. Appl., 10 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 681868	A1	19951115	EP 1995-107123	19950511
EP 681868	B1	20030730		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL				

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

DE 4416903	A1	19951116	DE 1994-4416903	19940513
DE 4416903	C2	19960822		
DE 4433023	A1	19960328	DE 1994-4433023	19940916
DE 4433023	C2	19961128		
DE 19516273	A1	19961114	DE 1995-19516273	19950508
AT 246042	T	20030815	AT 1995-107123	19950511
PRIORITY APPLN. INFO.:			DE 1994-4416903	A 19940513
			DE 1994-4433023	A 19940916
			DE 1995-19516273	A 19950508

L5 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The reactions of Pt-group metal compds. with higher aliphatic amines can be used to synthesize highly active metal complex catalysts for hydrogenation of unsatd. hydrocarbons. Immobilization of homogeneous catalysts on the surfaces of oxide-type inorg. supports gives supported catalysts exhibiting stability of catalytic action, as well as stability toward poisoning or thermal treatment. The Pd complex catalysts exhibit high activity ( $>75,000 \text{ h}^{-1}$ ) and high selectivity for hydrogenation of conjugated dienes or acetylenes to alkenes with yields approaching 98-100% (almost complete conversion). The Rh and Pt complex catalyst systems are active for hydrogenation of alkenes, dienes, and acetylenes to saturated hydrocarbons. The specific activities approach  $30,000 \text{ mol g-atom-metal}^{-1} \text{ h}^{-1}$  at  $20^\circ$  and  $0.1 \text{ MPaH}_2$ .

ACCESSION NUMBER: 1991:543554 HCAPLUS

DOCUMENT NUMBER: 115:143554

TITLE: Nonconventional catalysts for hydrogenation of unsaturated compounds based on Platinum Group metals with nitrogen-containing ligand complexes

AUTHOR(S): Frolov, V. M.; Parenago, O. P.; Shuikina, L. P.; Novikova, A. V.; Kliger, E. G.; Turisbekova, K. K.

CORPORATE SOURCE: Inst. Neftekhim. Sint. im. Topchieva, Moscow, USSR

SOURCE: Neftekhimiya (1991), 31(2), 197-204

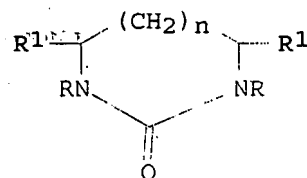
CODEN: NEFTAH; ISSN: 0028-2421

DOCUMENT TYPE: Journal

LANGUAGE: Russian

L5 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

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I

AB The title compds. (I;  $R = \text{Me}$ ;  $R1 = \text{H}$ ;  $n = 0, 1$ ), useful as solvents, are prepared by hydrogenation of I ( $R = \text{Me}$ ,  $R1 = \text{OH}$ ) or I ( $R = \text{HOCH}_2$ ,  $R1 = \text{H}$ ) over a supported Pd catalyst containing S, Se, or Te and, optionally, rare earth metals. An economically small amount of Pd on an inorg. support is used, and the catalyst can be regenerated, an improvement over the use of Pd supported on active C. Thus, a mixture of 50% aqueous I ( $R = \text{HOCH}_2$ ,  $R1 = \text{H}$ ,  $n = 1$ ) [prepared by hydroxymethylation of the corresponding I ( $R = R1 = \text{H}$ )] and 85%  $\text{H}_3\text{PO}_4$  was hydrogenated at  $120^\circ$  and 80 bar over a catalyst comprising 1% Pd and 1% S on  $\gamma\text{-Al}_2\text{O}_3$  to give 90% pyrimidinone I ( $R = \text{Me}$ ,  $R1 = \text{H}$ ,  $n = 1$ ).

## 10/696749 SELECTIVE HYDROGENATION CATALYST text search

ACCESSION NUMBER: 1990:55903 HCAPLUS  
 DOCUMENT NUMBER: 112:55903  
 TITLE: Process for preparation of cyclic N,N'-dimethylureas  
 INVENTOR(S): Franz, Lothar; Eggersdorfer, Manfred; Voges, Dieter  
 PATENT ASSIGNEE(S): BASF A.-G., Fed. Rep. Ger.  
 SOURCE: Ger. Offen., 4 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3800083	A1	19890713	DE 1988-3800083	19880105
EP 323647	A1	19890712	EP 1988-121874	19881230
EP 323647	B1	19911030		
R: AT, BE, DE, ES, FR, GB, NL, SE				
AT 69047	T	19911115	AT 1988-121874	19881230
ES 2038736	T3	19930801	ES 1988-121874	19881230
US 4925940	A	19900515	US 1989-293358	19890104
JP 01279873	A	19891110	JP 1989-178	19890105
PRIORITY APPLN. INFO.:			DE 1988-3800083	A 19880105
			EP 1988-121874	A 19881230
OTHER SOURCE(S):	CASREACT 112:55903; MARPAT 112:55903			

L5 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The title catalysts, especially useful for hydrogenation of organic compds., are

prepared by immersing porous inorg. supports in solns. containing dicarboxylatodiamminepalladium (II) complexes and reducing the impregnated complexes. An aqueous suspension containing 38 g activated C powders

and 4.3 g cis-oxalatodiamminepalladium was refluxed at 100° and bubbled with H and the resulting solids were filtered off and vacuum-dried to give 40 g 5% Pd/C catalyst whose aqueous suspension showed pH 7.10 initially and 6.84 after autoclaving under 4 kg/cm<sup>2</sup> H for 3 h.

ACCESSION NUMBER: 1989:541610 HCAPLUS  
 DOCUMENT NUMBER: 111:141610  
 TITLE: Manufacture of neutral palladium catalysts  
 INVENTOR(S): Nakanishi, Chihiro  
 PATENT ASSIGNEE(S): Tanaka Noble Metal Industrial Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01090037	A	19890405	JP 1987-245257	19870929
PRIORITY APPLN. INFO.:			JP 1987-245257	19870929

L5 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB A lecture on the synthesis of Pt and Pd complexes with organic dyes immobilized on some organic and inorg. supports. The catalytic activity of these complexes was studied in the hydrogenation of nitro groups, conjugated double bonds and acetylenic bonds.

ACCESSION NUMBER: 1988:93919 HCAPLUS  
DOCUMENT NUMBER: 108:93919  
TITLE: Hydrogenation of some organic compounds catalyzed by platinum and palladium complexes  
AUTHOR(S): Shopov, D.; Rakovski, S.  
CORPORATE SOURCE: Inst. Kinet. Catal., Sofia, 1113, Bulg.  
SOURCE: Homogeneous Heterog. Catal., Proc. Int. Symp. Relat. Homogeneous Heterog. Catal., 5th (1986), 601-15.  
Editor(s): Ermakov, Yu. I.; Likholobov, V. A. VNU  
Sci. Press: Utrecht, Neth.  
CODEN: 56DTA9  
DOCUMENT TYPE: Conference  
LANGUAGE: English

L5 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Ethylenediamine was treated with  $\gamma$ -chloropropyltriethoxysilane to give  $\gamma$ -(ethylenediamine)propyltriethoxysilane, which was hydrolytically polymerized in the presence of SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, or Si-Mg adsorbents and treated with PdCl<sub>2</sub> to give complex catalysts. These catalysts were useful for hydrogenation of styrene (I), acrylonitrile (II), nitrobenzene (III), and 1-hexene (IV), with catalytic activity decreasing in the order I > II > III > IV. The catalysts supported on SiO<sub>2</sub> exhibited higher catalytic activity than those on Al<sub>2</sub>O<sub>3</sub> and Si-Mg adsorbents. The catalysts could be easily recovered from the solution and reused without severe loss of activity.

ACCESSION NUMBER: 1987:578556 HCAPLUS  
DOCUMENT NUMBER: 107:178556  
TITLE: Silsesquioxane-supported transition metal catalysts. IX. Synthesis and activity of poly{[ $\gamma$ -(aminoethylamino)propyl]silsesquioxane}-palladium complex  
AUTHOR(S): Xiao, Chaobo; Lin, Yigeng; Ren, Xiaofeng; Chen, Yuanyin  
CORPORATE SOURCE: Wuhan Univ., Wuhan, Peop. Rep. China  
SOURCE: Wuhan Daxue Xuebao, Ziran Kexueban (1986), (4), 65-71  
CODEN: WTHPDI; ISSN: 0253-9888  
DOCUMENT TYPE: Journal  
LANGUAGE: Chinese

L5 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2007 ACS on STN

AB The catalytic hydrogenation of cyclopentadiene (I) [542-92-7] to cyclopentene (II) [142-29-0] was investigated at atmospheric pressure and 20° in MeOH and PhMe with Pd carrier catalysts in the presence of n-octylcatechol as polymerization inhibitor. Using 0.56% Pd/Al<sub>2</sub>O<sub>3</sub>, a 100% selectivity of the hydrogenation of I to II was achieved in PhMe. In MeOH, selectivity of hydrogenation was lower and partial polymerization of I occurred.

ACCESSION NUMBER: 1982:440091 HCAPLUS  
DOCUMENT NUMBER: 97:40091  
TITLE: Selective hydrogenation of cyclopentadiene in the liquid phase on palladium catalysts  
AUTHOR(S): Cervený, L.; Vopatová, J.; Ruzicka, V.  
CORPORATE SOURCE: Dep. Org. Technol., Inst. Chem. Technol., Prague, 166 28, Czech.  
SOURCE: Reaction Kinetics and Catalysis Letters (1982), 19(1-2), 223-6  
CODEN: RKCLAU; ISSN: 0304-4122  
DOCUMENT TYPE: Journal  
LANGUAGE: English

10/696749 SELECTIVE HYDROGENATION CATALYST text search

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COST IN U.S. DOLLARS

SINCE FILE  
ENTRY

TOTAL  
SESSION

FULL ESTIMATED COST

226.70

226.91

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE  
ENTRY

TOTAL  
SESSION

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